



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

## **THESIS**

**POLICY OPTIONS ANALYSIS  
OF ASSISTANCE TO FIREFIGHTERS  
GRANT PROGRAM**

by

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March 2014

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**POLICY OPTIONS ANALYSIS OF ASSISTANCE TO FIREFIGHTERS  
GRANT PROGRAM**

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## **ABSTRACT**

The Assistance to Firefighters Grant Program (AFG) is a direct federal grant program, administered by the Department of Homeland Security, for fire and emergency medical services to support firefighter safety and protect the public from fires and other hazards. Homeland security depends upon local fire services to be the first responders to all incidents. The AFG has experienced strong support largely due to the direct involvement of fire services in the grant process. The funding level, however, has been insufficient to address the unmet needs of fire services across the nation. The policy options analysis reviews four options for grant fund distribution, including the current approach, to maximize the contribution of fire services to homeland security goals. The analysis reviews the options based on the factors of improving baseline capability, building catastrophic incident capability, increasing regional capabilities and retaining local support for the AFG. The current approach to grant distribution was determined to provide the strongest contribution due to its broad eligibility of activities that encourage regional cooperation and enable fire services of diverse size and locations to have their applications reviewed on the merit of their identified need to support homeland security.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

AEL	authorized equipment list
AFG	Assistance to Firefighters Grant Program
CBO	Congressional Budget Office
CBRNE	chemical, biological, radiological, nuclear or high-yield explosive incident
CDBG	Community Development Block Grant
CRS	Congressional Research Service
DHS	Department of Homeland Security
EMS	emergency medical services
EOPUS	Executive Office of the President of the United States
FEMA	Federal Emergency Management Agency
FY	fiscal year
GAO	Government Accountability Office
HUD	Department of Housing and Urban Development
IAFC	International Association of Fire Chiefs
IAFF	International Association of Fire Fighters
ISO	Insurance Service Organization
MNHS	Minnesota Historical Society
MOE	maintenance of effort
NAPA	National Academy for Public Administration
NCES	National Center for Education Statistics
NOAA	National Oceanic and Atmospheric Administration
NFPA	National Fire Protection Association
NRC	National Research Council
NREMT	National Registry of Emergency Medical Technicians
NVFC	National Volunteer Fire Council
OMB	Office of Management and Budget
OIG	Office of Inspector General

PPE	personal protection equipment
S&T	DHS Science and Technology Directorate
SCBA	self-contained breathing apparatus
UMRA	Unfunded Mandates Report Act of 1995
USAR	urban search and rescue
USFA	United States Fire Administration



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## **I. INTRODUCTION**

The attacks of September 11, 2001, with 343 firefighters among those who died at the World Trade Center, provided the nation a tragic reminder of the risks faced by the nation's first responders and their direct involvement in homeland security. A year earlier, the United States Congress passed a new Assistance to Firefighters Grant (AFG) program to provide federal support to firefighter safety and protect the public (HR 1168, 2000). The Federal Fire Prevention and Control Act of 1974 was amended through the fiscal year (FY) 2001 Defense Authorization bill to appropriate an initial \$100 million for direct assistance to local fire services<sup>1</sup> (S. 25, 107th Cong, 2000). Through FY2013, there has been over \$6 billion in awarded AFG grants. Since its inception, the AFG has had bipartisan support in Congress, advocacy by fire related trade associations, and extensive participation by applicants nationwide. The strong support has resulted in the AFG's reauthorization in 2005 and most recently in 2013 through FY2017. However, the annual funding level equals less than one percentage of the annual cost of fire services (Hall, 2010, p. 11), and between only 5 to 10 percent of the identified urgent needs (Metzel, 2003). Therefore, the consideration is how to conduct the program to optimize the available funding towards contribution to homeland security goals.

### **A. PROBLEM STATEMENT**

Prior to the AFG, the federal government's direct financial investment in local fire services consisted of a few federal grant programs of limited funding and eligibility located in the Department of Housing and Urban Development, Department of Interior, and Department of Agriculture. The federal government's largest support to the fire services had been through research and training through the U.S. Fire Administration's (USFA) National Fire Academy, which was established in 1973.

During the last half of the twentieth century, a number of factors resulted in an increased advocacy for financial support for local fire services by the federal government. The factors include the increasing number of fire departments as a result of population

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<sup>1</sup> Fire Services and Fire Department refers to the first responder services as defined in the AFG Program as eligible for funding; thus, it includes along both volunteer and professional departments as well as emergency medical services.

growth, the rising operational cost due to improved firefighter safety, and the expanding complexity of risks requiring response. These factors resulted in funding of the fire service becoming increasingly difficult for local communities.

The annual total cost of fire services across the country is over \$225 billion based on professional fire service salaries, value of volunteer fire service labor, and the cost of equipment and fire stations (Hall, 2010, p 11). The AFG's average annual funding level of \$500 million represents a mere 0.22 percent of the annual \$225 billion cost of fire services (Kruger, 2013a). In comparison, education that historically has also been a local and state funded activity received \$64 trillion in federal revenues representing 10.7 percent of the annual \$597 trillion costs for public elementary and secondary schools in 2010 (National Center for Education Statistics [NCES], 2014). Therefore, the federal government's investment in education as a percentage to local and state contributions compared to fire services is greater by more than tenfold.

After a decade of lobbying, a federal grant program for fire services was enacted as the Assistance to Firefighters Grant Program (AFG) in late 2000. The AFG is the first dedicated, direct federal grant to fire departments. The AFG is administered by the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA). There are two companion grants to the AFG for staffing and fire station construction, also administered by FEMA.<sup>2</sup> The collection of AFG related programs was a new funding source of fire services from our nation's historical approach of almost exclusive state and local funding. With increasing constraints anticipated in the federal budget in FY14 and beyond, the AFG may face funding reduction, and it is unlikely the AFG will receive a significant funding increase. Therefore, it would be beneficial to maximize the contribution of the available AFG funding towards the fire services role in homeland security.

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<sup>2</sup> For example, the Staffing for Adequate Fire and Emergency Response (SAFER) grant program awards grants directly to fire departments to help them increase their number of firefighters, and the Assistance to Firefighters Fire Station Construction Grants (SCG) to provide financial assistance directly to fire departments to construct new or modify existing fire stations.

As defined by the *2010 National Security Strategy*, homeland security is a

... seamless coordination among federal, state, and local governments to prevent, protect against and respond to threats and natural disasters, a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur. (Executive Office of the President of the United States [EOPUS], 2010b, p. 2)

DHS works in partnership with other federal agencies, tribal nations, and state and local entities to provide homeland security consisting of prevention, deterrence, protection, and response actions. The *National Security Strategy*, released by the Obama administration in May 2010, includes building and investing in the capability of first responders to effectively manage emergencies (EOPUS, 2010b, pp. 18–19). Homeland security includes a response mission with a defined role local fire services, as per *National Preparedness Goal* (DHS, 2011a, p. 11). The AFG is a method for the federal government to partner with and support the local fire services' role in the response mission of homeland security.

Each AFG recipient receives a direct benefit to response capability from the activity funded by the grant. Information on the accumulated equipment purchased, manpower added, and training increased through the AFG is available to identify the accumulative total benefit. For example, a 2010 assessment of fire service needs demonstrated a decline in need in the areas that received the largest share of AFG funding (National Fire Protection Association [NFPA], 2011b, abstract).

It is not clearly known if the approach to the grant distribution provides the strongest overall support to the homeland security goal. Congress raised this question during the 2009 reauthorization appropriation hearings (Kruger, 2011a, p. 3). Would there be a higher return on a response capability from a homeland security perspective if the funds were utilized or distributed differently?

The policy options analysis of the AFG reviews grant distribution methods to potentially increase the program's contribution towards homeland security. The analysis is to review options to enhance the contributions of fire services to contribute to homeland security goals. The policy options analysis of the AFG addresses the

implications of continuing the current approach or the implementation of alternative approaches. It identifies the potential strengths and shortfalls of each approach to funded activities based on a number of factors.

The U.S. Congress launched the AFG to demonstrate a partnership with fire services across the nation in recognition of the “blanket of protection provided by America’s firefighters,” as expressed by U.S. Representative Steny Hoyer (Critical Fire Grants, 2009). Local fire departments provide the direct, first response to events that threaten our homeland security. Therefore, the AFG is a critical compliment to the preparedness and response activities of homeland security. A policy options analysis provides decision makers in homeland security with valuable information to identify the context of the AFG and the potential options for the program to maximize the benefit to our nation’s homeland security.

## **B. RESEARCH QUESTION**

What are funding distribution options to increase the Assistance to Firefighters Grant program’s benefit to local fire services capability to contribute to homeland security?

## **C. ARGUMENT**

The Assistance to Firefighters Grant (AFG) program provides funding for eligible fire service activities and equipment through an annual competitive grant process to fire services, including emergency medical service (EMS) departments. From its inception in 2001 through 2013, the AFG had no significant changes to the program’s approach other than minor expansion of eligible applicants and activities. The funding level has ranged from a high of \$746 million in 2003 to \$321 million in FY2013 (Kruger, 2013b). With funding level unlikely to increase, the program’s benefits to homeland security may be increased by program modifications, such as a focused objective to the funding.

More than 33,000 fire departments are eligible for AFG funding to provide services that benefit life safety and property protection (FEMA, 2009a, p. 13). Funding professional fire services, which provides for protection for approximately 60 percent of the population, costs \$34.2 billion annually (NFPA, 2009). The total cost annually for fire

services is estimated at over \$225 billion. Therefore, the AFG does not represent a source for significant funding for the annual fire service costs. For example, in FY2009 AFG awarded \$500 million in grants, which equaled less than 0.002 percent of the annual expenses of fire services nationwide in that year (FEMA, 2010a).

The AFG has a great disparity between the demand, as demonstrated by the number of applications, and the available funding. Using FY2009 as the example, the AFG received 19,791 applications, with a total of \$3.17 billion requested. The amount requested was six times the available \$565 million that funded 5,315 applications (FEMA, 2010a). Funds awarded as a percentage of funds requested was 13 percent in FY2010, 16 percent in FY2009, 15 percent in FY2008, 16 percent in FY2007, 21 percent in FY2006, 22 percent in FY2005, 28 percent in FY2004, and 34 percent in FY2003 (Kruger, 2013a. p. 13). In the June 2013 Congressional Research Service analysis of AFG distribution, it was noted that the downward trend in percentage awarded is the result of an increasing number of applications and amount of requested federal funds, while appropriations for the fire grant program have been declining (Kruger, 2013a, p. 13).

The fire services with the time, talent, and resources to articulate their needs in a competitive grant application have a potential advantage in receiving funds. Unfortunately, fire services with potentially greater need may prepare less competitive applications or not apply due to lack of the in-house expertise in grant writing. In recent years, FEMA has increased support for how to develop applications in an effort to increase fire services' ability to prepare a competitive application. However, FEMA's minimal staffing for AFG results in a proportionally small number of workshops in each state. For example, in FY2011, approximately 400 workshops were conducted by FEMA for the potential 30,000 applicants (FEMA, 2011).

Approaches to the improvement of the AFG through changes in grant distribution include: focusing on funding activities related to building baseline capability of fire services, on activities most associated with catastrophic incidents, and on regional capability needs. Funding could be directed towards those fire services with the lowest resources; this would increase the nationwide baseline capability of firefighter personnel

safety and fire prevention. In addition, the funding could be directed to fill gaps in specialized capability as related to catastrophic incidents, or it could be directed to fill gaps in regional capability of the fire departments in the area. The current approach to the AFG program allows for grants for a wide variety of activities. Furthermore, the current approach may represent the best option for optimum use of the available AFG funding.

The AFG's purpose is to protect public and firefighting personnel against fire and fire-related hazards, and to provide assistance for fire prevention programs. Because the funding is limited and in such high demand, the degree to which the program's purpose is achieved could be optimized through changes in the grant selection approach. An optimized AFG would enhance the nation's ability to meet our homeland security goals, which include the critical response role of local fire services.

#### **D. SIGNIFICANCE OF RESEARCH**

The policy option analysis of the AFG reviews the potential approaches to the focus of awards, including the retention of the current approach, to optimize the use of the AFG funding for homeland security. In addition, it will contribute to reducing the gaps in available literature related to federal funding to fire services in support of homeland security. The information assembled may support research into funding options available to local fire departments, identify local fire department capacity and capability issues, support fire department standards, and increase understanding of the challenges in grant program implementations in homeland security. Additionally, the information is valuable with regard to sustaining or increasing the funding levels of the AFG.

The primary intended audience of the research is the United States Congress, which appropriates the funds for the AFG and FEMA's USFA that annually develops the grant guidance and administers the program. Congress is a key audience as eligible activities under the AFG administered by FEMA is limited to those specifically included in the authorizing law or annual appropriation. The research will demonstrate the program is either utilizing, or could be adjusted to further utilize, the funding towards homeland security.



Citizens of the United States, as constituents of the elected Senators and Representatives of Congress, are an audience to demonstrate to that the federal funds for AFG are a worthwhile investment of tax revenues towards fire service capabilities. Additionally, the research will demonstrate the important and expanding response role that remains almost exclusively funded through local property taxes and assessments that requires continued local citizen support.

Other audiences for the research include the various fire department associations and advocacy groups who may value the research as it will highlight the level of federal funding versus the actual cost of fire services and the increasing challenge of fire services to fund their efforts independent of federal support. For homeland security professionals and leaders, the information related to AFG's impact on homeland security goals is valuable. There is potential that the AFG could be optimized regarding the fire services' contributions in support of homeland security goals in a more focused manner. Additionally, the policy options analysis will identify options for the AFG to find stronger linkages to objectives related to homeland security.

## **E. METHOD**

The thesis focuses on the Assistance to Firefighters Grant program (AFG) and its impact on fire department capability to support homeland security. The AFG administers an annual, nationally competitive grant program to fund specific resources for local fire services. Based on the historical trend in AFG funding, which has slowly been reduced from a high of \$746 million in 2004 to \$390 million in 2010, the thesis assumes no increase in AFG funding (Kruger, 2013a, p. 5). The research rational is to increase the understanding of how the AFG funds might be distributed to optimize the fires services' contribution to homeland security. The intention is to enhance local fire services to provide benefits to homeland security beyond the direct benefit to the specific local fire departments that receives the grant. The thesis question is: *What are funding distribution options to increase the Assistance to Firefighters Grant (AFG) program's benefit to the local fire services capability to contribute to homeland security?*

Public policy analysis is "the use of reason and evidence to choose the best policy among a number of alternatives" (Kraft & Furlong, 2010, p. 9). The thesis utilized policy

options analysis to evaluate existing policies and alternative choices in terms of their ability to achieve the stated AFG goals and to improve homeland security. The method to the policy options analysis was a multi-goal policy analysis. Professor Eugene Bardach, at the University of California, Berkeley, summarizes a multi-goal policy analysis as selecting impact categories for the goals, describing the goals of the existing policy, predicting impacts in terms of achieving relevant goals through a policy modification, valuing of the modification, and evaluating the policy modification (2009, p. xvi). The method “looks backs to link to a specific look forward” (Vining & Weiner, 2010, p. 4). The intention of a policy options analysis is to provide potential solutions for the program rather than solely expanding knowledge on the issue (Wolman, 2010). In their description of policy analysis, Aidan Vining and David L. Weimer emphasized the informative value even when the resulting recommendations are not immediately adopted (Vining & Weimer, 2010, p. 13).

The criteria to evaluate the policy options are based on the specific intention of AFG and homeland security goals. The grant distribution options must also be in alignment with the stated congressional intent of the AFG. The purpose identified by Congress was to provide direct assistance to local fire services to protect “the health and safety of public and firefighting personnel against fire and fire-related hazards, and to provide assistance for fire prevention programs” (HR 1168, 106th Cong, 2000). Importantly, the options must demonstrate their relationship to addressing homeland security.

Based on research of the program and criteria, four approaches to optimize the AFG were analyzed, including maintaining the present approach with the program. The analyzed approaches include:

- retaining the current approach (FY2001 to FY2013)
- focusing on baseline capability
- focusing on capabilities related to catastrophic incidents
- addressing gaps in regional capability.

Each of the proposed approaches were analyzed based the four factors of baseline capability, catastrophic incidents capability, regional capability, and local support. The factors were selected due to their contribution to the response mission of homeland

security. The analysis of each factor is summarized using an ordinal scale of low, medium, and high relative to the four approaches analyzed. Ordinal scales indicate direction difference to objective and do not represent a specific measure quantity. Therefore, low represents an identified benefit to that factor through the approach; medium represents an increased benefit above low and thus a significant contribution; and high represents a further increased benefit above medium that makes a substantial contribution to the factor.

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## **II. LITERATURE REVIEW**

A literature review was conducted to increase the understanding of the impacts of the Assistance to Firefighters Grants program on fire departments and to identify potential enhancements to optimize its benefits to homeland security. The AFG spans over ten years, awarding over \$6 billion in grants to improve the quality and safety of local fire services. Most of the reviewed literature provides relevant information as to the past and current operation of the program. The literature review identified significant available information in the subject areas related to the thesis.

The literature review focused on five areas with correlation to the thesis:

- Assistance to Firefighter Grant Program
- Local funding of fire services
- Intergovernmental grants
- Capability needs and requirements of fire departments
- Fire services role in homeland security

### **A. ASSISTANCE TO FIREFIGHTER GRANT PROGRAM INFORMATION**

The AFG was created through an amendment to the Fire Act of 1972 in federal fiscal year (FY) 2001 and has been reauthorized twice over the last decade. The enacting legislation and subsequent reauthorizations of the AFG are readily available through, for example, the Library of Congress' Thomas system. Additionally, congressional reports and hearing testimony provide the congressional intent of the AFG. The information articulates the legislative intent and direction of the AFG, and it is valuable in identifying opportunities to increase the impact of the AFG on homeland security goals.

Since its inception, the AFG has distributed comprehensive information on the past and current funding levels, the eligibility of activities and applicants, the selection and awarding process, and the grant recipients. For each federal fiscal year (FY), the AFG releases the program guidance detailing the eligible entities and activities as well as the application process. The available information on applications and awards is also comprehensive. Following the awarding of the FY grants, an annual report has been prepared that provides a breakdown of the recipients. The annual reports are available

covering through FY2010 funding. FEMA has prepared reports on the AFG as required in the appropriation and authorizing language from Congress. As of FY2010, the various FEMA reports have lacked substantial commentary and self-assessment on the program.

The DHS Office of Inspector General (OIG) completed a thorough review of the AFG in September 2003. The review focused on recommendations to improve the applicant's documentation and awarding process. Related to the thesis, the review recommends the use of *A Needs Assessment of the U.S. Fire Service* as an additional tool for defining AFG program priorities and evaluation criteria (OIG, 2003).

FEMA completed an assessment in 2002 and in 2006 to compare self-identified needs of fire services with the grants awarded based on surveys with fire services (FEMA, 2002a; 2006c). The assessments do not address the impact to fire services nor directly propose changes to improve the program. A third assessment provides a comparison in changes in needs between the first and second assessment that does provide some information and conclusion regarding the impacts of the funding (FEMA, 2006 October).

In FY2010, the re-authorization legislation directed FEMA to create a performance management system with quantifiable metrics to review the program's performance and identify needed improvements (Congressional Record, 2009). The performance management system had not been developed at the time of this literature search. A Government Accountability Office (GAO) Report, *Grant Performance: Justice and FEMA Collect Performance Data for Selected Grants, but Actions Needed to Validate FEMA Performance*, criticizes FEMA for the lack of development of the performance management system, especially as it related to the Office of Management and Budget's Circular No. A-11 that directs agencies to have a data plan to ensure completeness and reliability of performance data (2013, p. 24). The GAO report indicates the AFG is more driven by near-term priorities versus an effective means of measuring performance (p. 14).

The Office of Management and Budget (OMB) has applied a standard set of performance measures to various federal programs and listed the results on the Whitehouse internet site called Expectmore.gov: Expect Federal Programs to Perform

Well, and Better Every Year. The detailed assessment identifies the AFG as a successful program, on par with top performing federal programs (EOPUS, 2010a).

Similar to the reports prepared by the AFG, the Congressional Research Services (CRS) has produced reports on the funding level and distribution of the grants award. For example, the CRS *Assistance to Firefighters Program: Distribution of Fire Grant Funding* by Leonard Kruger has been updated periodically from 2009–2013. Programmatic changes each fiscal year are explained as resulting from either the requirements of appropriation and authorizing language, or to support the application process for the local fire services. There is also information addressing and identifying solutions to the large number of applicants compared to available funds. Reports indicate the AFG receives applications each year that equal five times more than the available funding.

A few reports were identified in the literature search related to specific applicants and geographic areas, for example the *AFG Program SPSS Analysis: Program Impact on the Fire Departments in Allegheny, Cambria, and Westmoreland Counties in Western Pennsylvania* produced by DHS (FEMA, 2006a). Additionally, the U.S. Congress Field Hearing report *The Assistance to Firefighters Grant Program: A View from Upstate New York* provides a viewpoint on the program from a specific geographic location (Assistance to Firefighters, 2004). The limitation of these two reports includes being geographical specific as well as limited in applicants reviewed. The common viewpoint in both documents is the need for and positive benefit of the AFG from a local recipient perspective. The reports lack discussion regarding why the need exists; for example, reduced tax base, aging equipment, or broadened expectations.

The Government Accountability Office (GAO) report *FIRE Grants, FEMA Has Met Most Requirements for Awarding Fire Grants, but Additional Actions Would Improve its Grant Process* was released in October 2009 (2009). The report is based on interviews with 36 applicants, and it indicates the findings are not sufficient to use as a generalization of the program. The GAO report provides a review of the AFG with a focus on the procedures and processes of soliciting the applications, the FEMA support for the application development, and the selection and award process. Despite the report's

title including “*Additional Actions Would Improve its Grant Process*,” the report does not significantly identify what actions would improve the impacts and merits of the AFG.

A Department of Agriculture Executive Potential Program Team prepared a report, *Survey, Assessment, and Recommendations for the Assistance to Firefighters Grant Program Final Report* in 2003. The report provides both quantitative and qualitative measures of the program’s effectiveness, with an overall positive assessment. The assessment was valuable to the thesis due to the independent perspective of the authors who were not directly part of the firefighting community.

In 2007, the National Academy of Public Administration (NAPA) conducted a performance assessment of the AFG; this assessment had a more comprehensive approach (NAPA, 2007). The report identified two major strengths of the AFG, the fire communities’ identified priority setting and peer review selection process. The NAPA review recommended the consideration of changes, such as increased regional cooperation. However, it advocated against any major changes but rather for a “gradual shift in direction without losing the major strengths of its current approach” (NAPA, 2007, p. xviii).

## **B. LOCAL FUNDING OF FIRE DEPARTMENTS**

The AFG provides a potential resource for federal funding to supplement local fire service funding. The availability of local funding and the challenges to local fire service funding are valuable to compare to the AFG funding levels. More directly beneficial to the resource is the compilation data available through fire associations, such as International Association of Fire Chiefs (IAFC) and National Fire Protection Association (NFPA).

The funding needs of fire services for baseline and additional needs related to homeland security was analyzed and estimated in a report by the Council of Foreign Relations in 2003, *Drastically Underfunded, Dangerously Unprepared*. The difficulty in defining the fire services’ needs is shown by the wide estimate of this report for annual baseline funding needs of \$10.6 billion to \$20.6 billion (Rudman, 2003, p. 34). It demonstrates the unclear definition of what is needed by local fire services. The



increasing use of national fire standards will contribute to the formation of a stronger, consistent estimate.

The funding challenges faced by fire services has been a growing subject area over the last few decades of the twentieth century due to expanding service expectations and constricting local government tax revenues. The reviewed literature identifies the reasons for the heightening financial challenges as increased community density and growth, higher costs for safety and firefighting equipment, and community resistance to increased funding due to competing other local priorities. For example, the issue is covered in *Weathering the Economic Storm: Fiscal Challenges in Fire and Emergency Medical Services* by the IAFC (2008). The *Firehouse* magazine's website contains articles on the growing funding challenge; for example, "Doing Less with Less. When Will We Learn?," published on February 3, 2010. Constricting local revenues is covered in the GAO report *State and Local Governments: Growing Fiscal Challenges Will Emerge during the Next 10 years* (GAO, 2008).

Current information on non-DHS federal funding options is available at the other federal agencies' websites. Many of these options pre-date the AFG and remain available for local fire service funding. Available information on funding levels of other programs show a significant limitation in available funding and overlap with eligible activities for AFG funding.

Information on non-local funding option is also available. For example, the GAO prepared a report in 1991 called *Budget Issues: Funding Alternatives for Firefighting Activities at USDA and Interior*. In addition, FEMA's U.S. Fire Administration developed a document *Funding Alternatives for Fire and Emergency Services* in 1998, which covers fundraising; local, state, federal and private funds; and effective grant writing (FEMA, 1998). The document was updated and released again in 2012 (FEMA, 2012b).

### **C. INTERGOVERNMENTAL GRANTS**

The literature on intergovernmental grants has multiple viewpoints on the effects of federal funding at the local level, including grants creating federal dependence and

being a catalyst of decreased local funding. Common in the literature is the notion that federal grants are largely driven by the U.S. Congress for a number of reasons, including supporting their identified priorities, pleasing key lobby groups, and responding to constituent concerns.

In terms of evaluating the federal grant program impacts, the identified literature focuses on evaluating specific grants, such as Community Development Block Grant (CDBG), education, transportation, rather than on the broad issue of federal grants.

Shama Gamkhar's book, *Federal Intergovernmental Grants and the States: Managing Devolution*, focuses on issues related to block grants, but it included background information on the increased trend in intergovernmental grants (2002). The information showed an increase in grants from federal to state over the last half of the twentieth century, with state and local government spending responding symmetrically to increases or decreases in federal assistance (Gamkhar, 2002).

Literature specifically related to homeland security grants to local governments include a report by Alexis Brunet (2005), *Grant Funding to State and Local governments and Systematic Assessment of Vulnerability*. Among her report's conclusions is the need for uniform distribution across function for fire services grant funding (Brunet, p. v). Her report supports the need for the purpose of this analysis of the AFG. She indicated "first responder capabilities need to be place in an economic context of how to concentrate limited homeland security resources to areas of greatest need" (Brunet, p. iii). The report supports the theory of federal funding as means to finance the activities of local government to influence local government policy (Brunet, p. 29).

Also found were articles and academic studies related to fiscal transfers and support from one level to another level of government. Richard M. Bird's article "Fiscal Federalism" in the *Journal of Economic Literature* provides an overall academic context of funding from different levels of government (1999). It defines fiscal federalism as "the division of public-sector functions and finances in a logical way among multiple layers of government" (Bird, p. 151). An article titled, "The Flypaper Effect" by Robert P. Inman with the Wharton School at the University of Pennsylvania provides context to a number of financial issues related to the AFG. For example, he states "Money sticks where it

hits,” which results in significantly greater public spending (Inman, 2008, Abstract). Another example, Dennis P. Leyden book *Adequacy, Accountability, and the Future of Public Education Funding*, includes a chapter that provides a more detailed explanation of intergovernmental grant theory as well as economic models (2005). These articles cover fiscal theories that support transfers as means to close revenue gaps and compensate for spillover benefits between communities, which are both applicable to fire services and the AFG.

#### **D. CAPABILITY NEEDS AND REQUIREMENTS AT LOCAL FIRE SERVICES**

In order to analyze the impact the AFG on local fire departments, literature is needed on their needs and requirements. There are no federal government regulations that place specific requirements upon local fire services. Instead, standards are used by the federal government and fire trade associations to define expectations and thus the needs to meet the expectations. The use of required and voluntary standards is comprehensively covered in the book *The ABC's of Standards-Related Activities* by Maureen Breitenburg (1987). In another work specific to fire services, the Department of Homeland Security, Office of Inspector reviewed DHS' efforts at standards in the 2006 report *Review of DHS's Progress in Adopting and Enforcing Equipment Standards for First Responders* (OIG-06-30). The report confirms the lack of regulatory authority to impede standardization and encourages use of approved equipment list for grant funding as a method to support standardization (OIG, 2006, p. 24).

There are many sources and available reports on standards defining local fire service needs. For example, the National Fire Protection Association has voluntary standards. The Congressional Fire Services Institute (2002), an entity representing various fire associations, completed a report *Protecting our Nation: The Immediate Needs of American's Fire Service*. Furthermore the Insurance Services Organization (ISO) has developed local fire services standards for their evaluations. ISO conducts assessments of fire services to assist insurance companies determine quality of fire services as it relates to reducing potential for fire damages (ISO, 2010b).

The condition of fire services is also needed as a baseline before augmentation through AFG funding. *America Burning: The Report of the National Commission on Fire Prevention and Control* and the follow-up *American at Risk: Findings and Recommendations on the Role of the Fire Service in the Prevention and Control of Fire Risks in America*, *American Burning Recommissioned* are detailed reports on the condition of the fire services prepared by the National Commission on Fire Prevention and Control in 1973 and by FEMA in 1999. They describe fire services as under resourced and over committed in many communities in the United States.

The RAND Corporation assessment report on *Fire Protection and Local Government: An Evaluation of Policy-Related Research*, written in 1975, found that policy related studies were limited as most studies focused on the deployment of firefighters and their equipment (Swersey, Ingall, Corman, Armstrong & Weindling, 1975, p. v). The report indicated “the largest body of policy-related fire literature is not research, but articles that describe programs or reports the experiences and views of fire professionals” (Swersey et al., 1975, p. 3). In the various reports reviewed as part of the literature research, the same focus found by the RAND study in 1975 appears to still be the focus in the present.

Understanding the needs of fire services requires information on the fire threat. The USFA has prepared 15 editions of the fire threat report *Profile of Fire in the United States*, with the most recent edition covering the fire threat between 2003 and 2007 (FEMA, 2010b). USFA identifies the reports as designed to “to equip the fire service and others with information that motivates corrective action, sets priorities, targets specific fire programs, serves as a model for State and local analyses of fire data, and provides a baseline for evaluating programs” (FEMA, 2014).

FEMA’s more relevant resource to understanding fire services needs is a series of three needs assessments. *A Needs Assessment of the US Fire Service*, a cooperative study with the National Fire Protection Association and authorized by U.S. public law, was produced by FEMA in 2002. Conducted through a nationwide census survey, the purpose of the assessment was to define the current role and activities of fire services, determine the adequacy of current funding levels, and provide a needs assessment to identify

shortfalls (FEMA, 2002a, p. 1). The results of the surveys were adjusted to account for variation in response rates by community size (FEMA, 2002a, p. 133). The second of the assessments, titled *Second Needs Assessment of the US Fire Service*, was produced by FEMA in 2006. The responses were used to determine the adequacy of current levels of funding and provide a needs assessment to identify shortfalls (FEMA, 2002a, p. 1). A “rough comparison” was made between the needs identified in the first survey and resources requested between 2001 and 2004 through the AFG (FEMA, 2006, p. 1). The comparison showed improvements in areas where funds were requested and fewer improvements in areas where funds were not, such as training.

The *Third Needs Assessment of the U.S. Fire Service* was completed by NFPA in 2010 and included a comparison between the 2001 and 2006 needs surveys. Furthermore, it provided a summary of the “implications of those findings for the grant program” (NFPA, 2011b, p. i). Similarly, DHS completed a study *Matching Assistance to Firefighters Grants to the Reported Needs of the U.S. Fire Service* in 2006. The study indicates it should “not be used to draw conclusions” (FEMA, 2006, p. iv). The assessments are driven by self-identified needs versus a comparison to national standard of needs, as there are no required national standards. This self-determination makes it difficult for the surveys to account for the identification of needs that may be inconsistent with other fire services or with the voluntary fire service standards.

For a perspective on the current costs of fire services, the National Fire Protection Association outlines the costs in its document *The Total Cost of Fire Services* (Hall, 2013). To supplement the information on the costs of fire services, Fireman’s Fund Insurance Company issued a report based on a national survey of fire departments on the impact of poor economic conditions (2009).

## **E. SCOPE OF LOCAL FIRE SERVICES’ RESPONSIBILITY FOR HOMELAND SECURITY**

Local fire services provide the critical direct response on a day-to-day basis across the nation, in every community, for the smallest to the most catastrophic of incidents. Federal and state response capabilities may be used to augment, or provide a unified command, but the one consistent element to a response is the local effort of fire services.

In order to articulate the fire services integral part in the response element of homeland security, there needs to be an understanding of how the AFG supports homeland security.

Homeland security theses from Naval Postgraduate School's Center for Homeland Defense and Security related to fire services include Rosemary Cloud's master thesis *Future Role of Fire Service in Homeland Security* (2008) and Douglas W. Week's master thesis *Strategic Changes for the Fire Services in Post 9/11 Era* (2007). Both of these theses did not address AFG funding issues.

Civil defense is the precursor to homeland security, and thus it is beneficial to review the various governmental entities' historical roles in civil defense to identify the responsibility of fire departments in homeland security. FEMA's document by B. Wayne Blanchard (1985) on the civil defense program, *American Civil Defense 1945–1984: The Evolution of Programs and Policies*, provides the groundwork from post-World War II until the early days of FEMA. In regards to the current DHS vision for local fire service in homeland security, the GAO report *DHS' Efforts to Enhance Fire Responders' All-Hazard Capabilities Continue to Evolve* covers the changing vision from the formulation of DHS to present (2005a).

Various homeland security documents have been produced by the federal government, notably the 2002 *National Strategy for Homeland Security* by the EOPUS Office of Homeland Security, 2007 *National Strategy for Homeland Security* by the EOPUS National Security Council, and 2011 *National Preparedness Goal* by the Department of Homeland Security. The Obama administration released the *Presidential Policy Directive 8, National Preparedness Goal* in 2011, which called for a systematic approach to national safety and resiliency from all hazards. The documents differ most significantly in their evolution from a terrorism focus to an all-hazard focus in homeland security. All three documents identify first responders as a key partner in homeland security that federal and state homeland security related entities must effectively collaborate and support.

FEMA has prepared a few documents to address the fire services' role in terrorist events and events of national consequences that extend beyond the day-to-day role of local fire services. For example, *Responding to Incidents of National Consequence:*

*Recommendations for American's Fire and Emergency Services Based on the Events of 9/11/01, and Other Similar Incidents* identifies recommendations to local fire services for a variety of current issues related to initial response (FEMA, 2004). However, the AFG was not created nor designed to focus on terrorism related incidents but to provide support across all-hazards.

## **F. CONCLUSION**

Relevant information is available to support the analysis of the AFG to identify approaches to optimize fire services contribution to homeland security goals. To date, the available literature on the AFG has been utilized to answer questions such as the appropriateness of the AFG grant management and to support transparency of the program to applicants and the Congress. The Department of Homeland Security FEMA's focus has been on getting the funds awarded in a timely manner through a peer-based process. Reviewers, such as GAO, have focused on the level of success at distributing the funds. The fire service and their advocates focus has been on promoting the program's further continuation.

The literature review identified documents with direct correlation to the thesis. However, they have not directly addressed optimizing the program's support of fire services to homeland security through the grant distribution approach. Therefore, it appears beneficial for the thesis topic's exploration of whether there are opportunities for the program that have yet to be assessed.

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### **III. BACKGROUND**

Everyday, we and our families live under the blanket of protection provided by America's firefighters, both career and volunteer. These are men and women who are willing to risk their lives to safeguard us, our loved ones and our property.

–U.S. Representative Steny Hoyer

Fire protection has been community based since the first European colonization of the North American continent. It has remained a local effort even as its role has expanded to include other perils and catastrophic incidents. An overview in three areas will provide background for a policy option analysis of the effectiveness of the Assistance to Firefighters Grant program (AFG) towards homeland security: 1) history of fire services in the United States, 2) fire services role in homeland security, and 3) the evolution of federal assistance available to local fire services.

#### **A. FIRE SERVICES IN THE UNITED STATES**

Fire services in the United States are provided at the local community level through volunteer and professional fire departments. As the country has grown to include communities of increasing size and characteristics, fire has remained a constant threat to be prevented, when possible, and aggressively fought when it threatens the community's safety. The scope of fire protection has evolved over the last 200 years, especially the last 50 years due to transition from rural to urban communities, the complexity of infrastructure, and human-caused threats from globalization.

##### **1. The Fire Threat**

Fire has posed an ongoing and potentially catastrophic risk from the earliest settlements in North America to the current day. For example, an uncontrolled fire devastated Jamestown, the first North American settlement by Europeans. Nearly every building was destroyed when the community blockhouse caught fire (Smith, 1978, p. 2). In the nineteenth century, numerous fires resulted in great losses; some notable examples include fires in New York (1835), Pittsburgh (1845), Chicago (1871), Boston (1872) and

Seattle (1889) (NFPA, 2010c). Fire remains in the twenty-first century the leading cause of property loss (Waters, 2010).

A fire may start within a community or emerge from the surrounding environment due to a wildfire. Forest fires pose a tremendous threat to the built environment. In one incident in October of 1918, a wildfire in northern Minnesota ravished multiple towns killing more than 450 people, destroying over 4,000 homes, and causing over \$505 million in losses (2008 dollars) (Minnesota Historical Society [MNHS], 2012). Wildfires have continued to be a major threat. For example, the Oakland, California, fire in 1991 resulted in the death of 25 and over \$2.4 billion in loss (2008 dollars) (NFPA, 2010c). In another example from 2007, San Diego, California experienced a severe fire event that destroyed over 3,000 homes, destroyed portions of critical communication and public utilities systems, and forced the evacuation of hundreds of thousands of people (California Department of Forestry and Fire Protection, 2008, p. 4).

Other natural hazards result in catastrophic fires. The 1906 San Francisco earthquake is a powerful example of a catastrophic fire as a result of another natural hazard. Fire departments responded across the city to fires caused when the earth shaking overturned lanterns and broke gas lines. The fires covered 2,600 acres, destroying 490 city blocks with 25,000 buildings and homes (Winchester, 2005, p. 291). The adjusted losses were over \$8 billion (NFPA, 2010a). In the end, the fires caused more damage and deaths than the earthquake itself.

Fire is also a method of terrorism and is used internationally to cause large-scale harm. Using fire as a weapon requires minimal training and planning, yet it poses significant injury and death from smoke inhalation and burns, results in structural damages, and creates a strong visual image (Pfeifer, 2013, pp. 1, 3). For example, an individual purposely started a fire at a New York City night club in 1990, killing 87 people (Pfeifer, 2013, p. 1).

The threats also extend beyond actual fires, notably explosions. For example, the May 19, 1995, bombing of the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma, killed 168 people and required extensive fire rescue efforts. The response utilized 11 urban search and rescue teams from across the United States, which are

maintained and managed by local fire services (Oklahoma Department of Civil Emergency Management, 1995, pp. 2, 71).

In additionally, fire services also carry out hazardous material (hazmat) responses as a result of both acts of terrorism and unintended accident. Hazmat response requires specialized firefighter protective gear to be able to rescue individuals, detection equipment, and resources to handle the initial containment to mitigation further damages.

## **2. The Fire Service**

Fire services consist of both fire departments and emergency medical services (EMS) working together to protect life safety and mitigate the damages from fires and other related perils. FEMA defines volunteer and professional fire department as “an organization formally recognized by a government authority (state, territory, tribe or local) to provide fire suppression to a population within a fixed geographical area on a first-due basis” (FEMA, 2010c). As of 2012 in the U.S., there are a total of 30,100 fire departments with 345,950 career fighters and 783,300 volunteer firefighters (NFPA, 2013). Emergency medical services are defined “as a public or private nonprofit organizations that provides direct emergency medical services, including medical transport, within a specific geographic area on a first-due basis, but is not affiliated with a hospital and does not serve an area where EMS is adequately provided by a fire service” (FEMA, 2009b, p. 28). Based on the 2010 National Registry of Emergency Medical Technicians (NREMT), there were 311,799 certified EMS workers (2011, p. 8).

The fire services of today evolved from individuals assembling to pass along water buckets, to organized groups manning fire apparatus and hoses. The first recognized volunteer fire department was in 1736, organized by Benjamin Franklin (McNeill, 2009). The increasing use and improvements to fire engines is credited in paving the way for paid fire departments (Smith, 1978, p. 8). The city of Cincinnati is the home of the first paid, professional fire department in 1853 (NFPA, 2010c). Due to the way fire services developed, fire services today have a strong culture of voluntarism, teamwork, and rapid response (NAPA, 2007, p. 55).

In addition, fire services have been self-regulated and standards have been encouraged across departments through a number of professional associations and advocacy groups. For example, the National Fire Protection Association (NFPA) was established in 1896 in response to the need for uniform installation of sprinkler systems, and it remains one of the most active standards developing organization for fire services (NFPA, 2010b).

Major fires with significant losses related to a lack of standards have been the catalyst for increased development of various standards. For example, during a 1904 fire in downtown Baltimore, the fire engines from other fire departments that arrived to assist were unable to connect their hoses to the local hydrants. The fire resulted in the loss of 1,526 buildings, which may have been reduced if the hose connections matched (Breitenburg, 1987, p. 3). As a result of the incident, fire hydrant and hose connections were standardized in the Baltimore area.

Past fires have also demonstrated the need for effective coordination among fire stations for improved firefighting capabilities. For example, in October 1947 wildfires in southern Maine causing \$23 million in damages (1947 dollars) and destroyed over 200 homes in Kennebunkport, Maine (“The 1974 Fire,” 2011). Soon after the fire, Kennebunkport became one of the first towns in the nation to implement a two-way radio system to support communication among firefighters (“The 1974 Fire,” 2011).

The population migration from rural to urban settings have added to the complexity of fire protection. While population density creates efficiencies in providing fire services, it also increased the need for fire protection due to risk of rapid expanding fires due to proximity of structures (Bradford, Malt and Oates, 1969, p. 198). The consistent fire risks and increasing complexity of fire services brought increased attention on the need to support fire protection.

In the mid-twentieth century, the evolution of fire services were driven by a number of significant studies that examined the responsibilities and condition of fire services. One pivotal example was the President’s Fire Prevention Conference of 1947 attended by over 2,000 individuals from fire services, government, industry, business, and academia. The conference’s outcome was a report, known as the Truman report, that

extensively covered the fire hazard in the United States (President's Conference on Fire Prevention, 1947, p. 80). The National Academy of Public Administration has indicated the Truman report's findings were not implemented, unfortunately (NAPA, 2007, p. 24).

In 1966, the Wingspread Conference also studied the fire services and produced the report *Wingspread Conference on Fire Service Administration, Education and Research: Statements of National Significance to the Fire Problem in the United States*, (Johnson Foundation, 1966, p. 26). According to *America at Risk*, the report "challenged the traditional concept of fire protection being strictly a local responsibility" (FEMA, 2002b, p. 33). Like the Truman report, the Wingspread Conference's findings were largely unimplemented. The Wingspread Conference continues to be held each decade by the National Fire Heritage Center, most recently in 2006, to articulate the both emerging and on-going issues impacting fire services (IAFC, 2006, p. iv).

The National Commission on Fire Protection and Control published *American Burning* on May 4, 1973. *American Burning* is credited for focusing attention on the nation's fire problem and the needs of fire services, as well as the creation of the U.S. Fire Administration (USFA) and the National Fire Academy (FEMA, 2000c). The commission strongly recommended that fire services remain primarily a local responsibility as the nation worked to address fire prevention and response (National Commission on Fire Protection and Control, 1973).

In the late twentieth century, fire service roles expanded to include emergency medical services, hazardous material response, and urban search and rescue. Following the Emergency Medical Services Systems Act of 1973, the greatest increase in daily response calls by fire services was for emergency medical services (NAPA, 2007, p. 58). In 2012, two-thirds of fire department responses were for medical aid calls (NFPA, 2013).

Hazardous materials response by local fire services expanded in the 1980s. Hazardous materials (hazmat) are found in and are transported through every community. The inappropriate release or leak of hazardous materials through an unintended accident or terrorist attack poses a risk to people and communities. A study of the five-year period from 1988–92 revealed at least 19 chemical incidents occur each day across the nation

(FEMA, 2003c, p. 1). In addition to the many smaller scale hazmat responses, catastrophic hazmat responses were also observed. For example, the 1989 explosion of a chemical plant in Texas that killed 23, injured more than 100, and damaged nearby structures beyond the manufacturing facility (FEMA, 2003c, p. 1). The increased role in hazardous material response created a \$36.8 billion shortfall in needs to equip and train fire services (Rudman, 2003, p. 34).

The 1990s brought additional growth in specialized rescue, including urban search and rescue (USAR) operations to perform confined space response due to building collapse. USAR requires specialized training, vehicles and equipment (Rudman, 2003, p. 32). It is estimated that \$15.2 billion is needed to enable fire services to handle technical rescues and conduct urban search and rescue (Rudman, 2003, p. 35).

Terrorist incidents, such as the Oklahoma City Murrah Federal Building bombing and the attacks on the World Trade Center in New York, have brought attention to the need for catastrophic incidents response capability (FEMA 1996, p. 19). Research indicates that even the largest fire services do not possess adequate resources to respond to the full range of terrorist threats (NFPA, 2011b).

In the twenty-first century, fire services continue to have limited capability for the most unique and largest of threats (Weeks, 2007, p. 8). The 2000 report *America Burning Re commissioned: America at Risk* acknowledged the lack of sufficient additional resources (FEMA, 2000b, p. 12). In 2006, an NFPA assessment of fire services stated 21 percent of fire departments in communities with populations of less than 2,500 would be unable to consistently provide the fire industry standard of at least four firefighters per response. In addition, the assessment estimated that 60 percent of the fire departments did not have enough self-contained breathing apparatuses to equip all firefighters on a shift, and 49 percent of all fire engines were at least 15 years old with the potential need for replacements (FEMA, 2006c).

The cost of fire services has been borne by the community served, except for a few fire departments funded by insurance companies during an early period in the nineteenth century. Local government expenditures for fire services totaled \$.51 per capita at the start of the twentieth century (Bradford, Malt & Oates, 1969, p. 198). By

1960, the expenditures had rose to \$5.53 per capita (Bradford, Malt & Oates, 1969, p. 198). Thus, the increased cost is not directly related to increase in population being served. Between 1980 and 2010, the trend of increasing costs continued, and from 1980 to 2007 the costs more than doubled, from approximately \$15 billion in 1980 to \$35 billion in 2007 (NAPA, 2007, p. iv). Adjusted for inflation, local expenditures for fire services increased from 20 percent of the local expenditure in 1980 to 35 percent by 2010 (Hall, 2013, p. 20). Estimates range as high as \$85 billion to address the significant shortfalls with an estimate of \$37 billion to address the most urgent shortfalls (Metzel, 2003).

According to James R. Hall of the National Fire Protection Association, the increased cost has been due to improved standard equipment, growth in communities, expanded roles such as EMS, and increasing shift from volunteer to career fire departments (Hall, 2010, p. iv). In addition to these factors, which increased the demands from within the community, the International Association of Fire Chiefs (IAFC) also views the increasing cost resulting from a national demand for emergency services for homeland security (2005a, p. 3). Local fire services lack the resources and funding to meet the national demand related to homeland security. A portion of the shortfall relates to the fire services direct support of the homeland security and, therefore, how can federal support through the AFG be maximized?

## **B. HOMELAND SECURITY AND THE FIRE SERVICES**

Homeland security encompasses prevention and response to threats to the life safety and economic stability of the country from all sources—a terrorist attack, unintended accident, or natural disaster. The *Presidential Policy Directive 8* (PPD-8) *National Preparedness Goal*, issued March 30, 2011, defines response as the “capabilities necessary to save lives, protect property and the environment, and meet the basic human needs after an incident has occurred” (EOPUS, 2011a, p. 6). Fire services aim to provide the response element of homeland security in every community in the nation.

According to the *National Security Strategy* of 2010, the roots of homeland security stem from the “traditional and historical functions of government and society”

that includes civil defense (EOPUS, 2010b, p. 15). Civil defense originated in the 1940s and 1950s from the nuclear threat and focused on preparedness and the potential need for sheltering. The Federal Civil Defense Act of 1950 identified civil defense as the joint responsibility of federal, state and local governments (Office of Comptroller General, 1977). As early as the 1960s, the fire services were viewed a “domestic defender” against “natural and human-made disasters and other emergencies that extend far beyond one geopolitical boundary” (IAFC, 2005a, p. 3). Over the subsequent decades, homeland security civil defense moved its focus to response and recovery programs, most often for natural disasters. Following the attacks on September 11, 2001, homeland security emerged as national priority with a focus on prevention, protection, and response to terrorism attacks.

The updated *National Preparedness Goal*, issued in September 2011, moved homeland security more towards an all-hazards approach to addressing prevention, protection, response, recovery and mitigation (DHS, 2011). According to a GAO report, while there is a difference in the nature of intent and planning between natural hazards and accidents versus terrorism, the response activities remain the same and both require the direct engagement of the fire services to protect homeland security (2005, p. 26).

The responsibility of homeland security for response necessitates a direct partnership with fire services who are uniquely situated to be the first responders to incidents that threaten homeland security (Canada, 2003, p. 1). The American Fire Service indicates local fire services are deployable within five minute for the purpose of saving lives and mitigation property and environmental damage caused by natural and manmade disasters (2002). Therefore, the *National Preparedness Goal* identifies the local community involvement of fire services as the “primary source” of initial manpower and “vital link” to additional support in the “first hours and days after a catastrophic incident” (DHS, 2011, p. 11).

In addition to the inherent proximity, fire services represent a critical response resource due to the extent of provided services. The Department of Homeland Security Secretary Michael Chertoff remarked in 2005 in a IAFC Leadership Summit press release, “Our fire services are the original “all-hazards” agencies—responding to



everything from forest fires to toxic chemical spills to medical emergencies” (IAFC, 2005b). Their response role includes both catastrophic incidents and less severe events to mitigate the chances the incident grows catastrophic. Fire services are critical for homeland security due to the reality that few entities are as resourceful and multitalented (Sensing & Stambaugh, 2008, p. 1). Therefore,

Homeland security depends fundamentally on strengthening the ability of local first responders—such as firefighters, police officers, emergency technicians, and public health workers—to cope with rare and abnormal events... strengthening the capacity of local governments to deal with a wide variety of dangers, including terrorism, is the foundation for a successful strategy. (Kettl, 2003, p. 15)

Various federal government documents support fire services as a core component of homeland security. For example, the 2002 *National Strategy for Homeland Security* identifies fire services as among “America’s first line of defense in the aftermath of any terrorist attack” (EOPUS, 2002, p. 41). *Homeland Security Presidential Policy Directive 8*, as written in 2003, directed the Department of Homeland Security to “implement procedures for developing and adopting first responder equipment standards that support a national preparedness capability” (OIG, 2003, p.11). The Target Capabilities List for homeland security preparedness includes 36 capabilities of which 30 relate to hazards that fire services routinely engage in the response (GAO, 2005, p. 4).

The response by fire departments to terrorist events has demonstrated their homeland security role. The 9/11 terrorist attacks highlighted that first responders are “truly our first line of defense against acts of terrorism,” as expressed by Director C. H. Straub II, Office of Domestic Preparedness, Department of Justice (Brunet, 2005, p. iii). The White House report, *Securing the Homeland, Strengthening the Nation*, indicates local fire services have a response role in terrorist incidents due to their greatly varied abilities (EOPUS, 2003, p. 10).

The *National Preparedness Goal* was updated to be more than an anti-terrorism goal in recognition that natural hazards posed as catastrophic a risk (DHS, 2011). Catastrophic natural disasters have demonstrated that threats to homeland security come in many forms and from many sources. One devastating example would be the 1992 Hurricane Andrew in Florida and Louisiana cost over \$35 billion, and the 1994

Northridge 6.7 earthquake in California cost approximately \$20 billion (Associated Press, 2005). Even more devastating were Hurricanes Katrina and Rita in 2005 with combined property damages over \$125 billion (U.S. Department of Commerce, 2013). Therefore, there must be a balance in addressing terrorism and natural hazards to increase local fire service capabilities to support homeland security (NAPA, 2007, p. 98).

Fire services capability must be maintained and augmented to meet their response role in homeland security. The cost to local communities of funding their fire services has increased at a per capita rate greater than what can be explained by population increase alone. The increased costs are also due to advances in equipment for life safety of firefighters and the public, as well as additional specialized capabilities in terms of trained personnel and equipment to meet their response role, which has been heighten by the increased responsibility concerning homeland security.

The resources are defined in fire protection standards recognized and utilized for determining fire service needs. The National Fire Protection Association has conducted three needs assessments utilizing the fire protection standards. The results indicate there are unmet needs between the defined standards and what fire services have available. Less than 50 percent of fire services with responsibilities for collapsed building response or hazardous material response, often associated with catastrophic incidents, have the necessary equipment and trained personnel (NFPA, 2011b, p. xii, xiii). An estimated developed by the Council of Foreign Relations (CFR) estimates the additional needs \$98.4 billion, as of 2003 (Rudman, 2003, p. 38).

How fire services are best supported depends on whether homeland security is views with a “top-down or bottom-up” focus, according to Professor Donald F. Kettl, Dean of the School of Public Policy at the University of Maryland (2003). The bottom-up focus is on providing more equipment to fire services based on the local perceived needs and prioritization. The top-down focus is on creating an integrated defense with decisions made at the top-down based on a national integrated system of protection. Professor Kettl believes failure to resolve the differing focus has created “competing demands for scarce resources and significant response gaps” (2003, p. 11).

Federal homeland security officials, national homeland security documents and in local fire service associations share the viewpoint that fire services both represent a key component of and play a critical role in homeland security.

### **C. FEDERAL ASSISTANCE TO FIRE SERVICES**

Fire services have been almost exclusively funded at the local level. In part, local funding is due to the origin of fire services as a volunteer, community-based entity with a focus on responding to local fires. Historically, the case for federal assistance has been weak due in part to the availability of fire insurance to compensate for fire losses that was almost exclusively the focus of fire services (NAPA, 2007, p. 69). As the nation's communities have grown, the expanded expectation of fire services has grown related to their ability to response to catastrophic incidents. With this growth, there has been an evolution from almost exclusively local funding to recognition of the need for federal support (NAPA, 2007, p. 55).

The role of federal assistance for local services, such as schools, law enforcements, and infrastructure, is an underlining, broader issue. Professor Richard M. Bird of the University of Toronto reports that local governments depend in small to large degrees on financial support from the federal government to provide many of their services (Bird, 1999). He has indicated that the difficult question is the appropriate level and design of such transfers in the form of financial support (Bird, p. 152). Advocates for financial support view grants as “an essential component of an efficient (and equitable) fiscal federalism system” (Bird, 1999, p. 152). Those opposed to financial support question whether the federal government has a role as an equalizer (Bird, 1999, p. 152). Bird explains that advocates also propose federal assistance should “compensate local governments for benefit spillovers to ensure they provide the optimal amount of the public service” (p. 152). Both the equalizer and spillover arguments are relevant and found in the discussion of fire service funding. The capability of fire services vary from community to community, and neighboring communities benefit when a community stops a fire before it spreads to other communities.

The evolution towards federal assistance to fire services was brought about by increased examination of the fire services. The 1966 *Wingspread Conference on Fire*

*Service Administration, Education and Research, Statements of National Significance to the Fire Problem in the United States* questioned the assumption that fire services are the sole responsibility of local government (Johnson Foundation, 1966, p. i). The National Commission on Fire Protection and Control's *American Burning* report in 1973 included in the federal government's role the providing of financial assistance "when adequate fire protection lies beyond the community's means" (p. x). The updated *American Burning* report in 2000 concluded that while funding resides with state and local government, a substantial role exists for federal government funding.

Local governments have had an especially difficult time addressing the fire service costs as a result of new mission requirements and catastrophic incident response. The costs have risen over the last 50 years at a rate far exceeding the growth in U.S. population. The significant rise in fire service expenditures documented in the twentieth century on a per capita basis demonstrate its not simply an issue of expanding population that caused the increased costs (Bradford, 1969, p. 198). For example, new service expectations contributed to the increased expense for fire services. A 2009 GAO report identified emergency medical services as one of the motivators for increased local requests for federal funding (p. 1). In 2010, the ISO reported a 20 percent increase in fire services who received a lower rating due to reduction in firefighting personnel, reduction in equipment, and deficiencies in training (Waters, 2010).

During the last 20 years, the increased costs has occurred during a time of increased demands on local funding sources and periods of declining local tax revenues. The National League of Cities indicated one in three cities in a 400 city survey had experienced an increase in public safety costs during a decline in their local economies and municipal revenues (GAO, 2002a, p. 13). The Rockefeller Institute of Government confirms a decline of tax revenue, 2.8 percent in nominal terms and 4.2 percent in real terms (Boyd & Dadayan, 2009). The most recent decline was partly due to reduced home values, which is the basis for most local fire service funding through either a portion of the local property tax or special purpose district fee applied to the property tax.

The growing recognition of fire services role in responding to catastrophic incidents of national significance increased the call for federal assistance to fire services. At the 1996 Wingspread Conference, the challenge of funding a catastrophic incident response was reported as:

It is economically unfeasible for any single governmental jurisdiction to equip and man itself with sufficient forces to cope with the maximum situations with which it may be faced... The lack of understanding of this principle has caused many communities to be caught short of fire suppression resources. (p. 12)

In the introduction to the 2008 report, *Weathering the Economic Storm*, the President of the International Association of Fire Chiefs (IAFC), Larry J. Grorud, noted, “the effects of our collapsed housing market raked a toll on local government revenues and subsequently, our emergency services budgets” (IAFC, 2008). The difficult economic times added fuel for the ongoing need for federal assistance toward fire services.

Despite the increasing costs, prior to the AFG, federal funding sources were extremely limited for fire services (FEMA, 2000a, p. 52). In 1974, the federal government started to provide technical assistance to local fire services through the creation of United States Fire Administration (USFA). The USFA’s mission is to “reduce life and economic losses due to fire and related emergencies, through leadership, advocacy, coordination, and support” (FEMA, 2007b). The original activities of the USFA were focused on training programs through the National Fire Academy, and the USFA did not provide federal funding towards fire services.

Prior to 2000, only a few dedicated programs existed for fire services. The programs that did include eligibility for fire services activities had significant competition. For example, the Department of Agriculture’s Rural Community Fire Protection program, part of the Rural Development Act of 1972, only awards annually \$7 million with a \$20,000 maximum award per year for an applicant, as of FY2010 (Department of Interior [DOI], 2011). The Department of Housing and Urban Development’s Community Development Block Grants (CDBG), initiated in 1974, has eligible activities related to fire services (U.S. Department of Housing and Urban

Development, 2010). The CDBG has grown to be one of the largest federal domestic grant programs. The program, however, has not provided a meaningful source of funding due the highly competitive nature, the program’s priorities (such as serving blighted areas) and the limitation of eligible activities and purchases that (Walter, 2000).

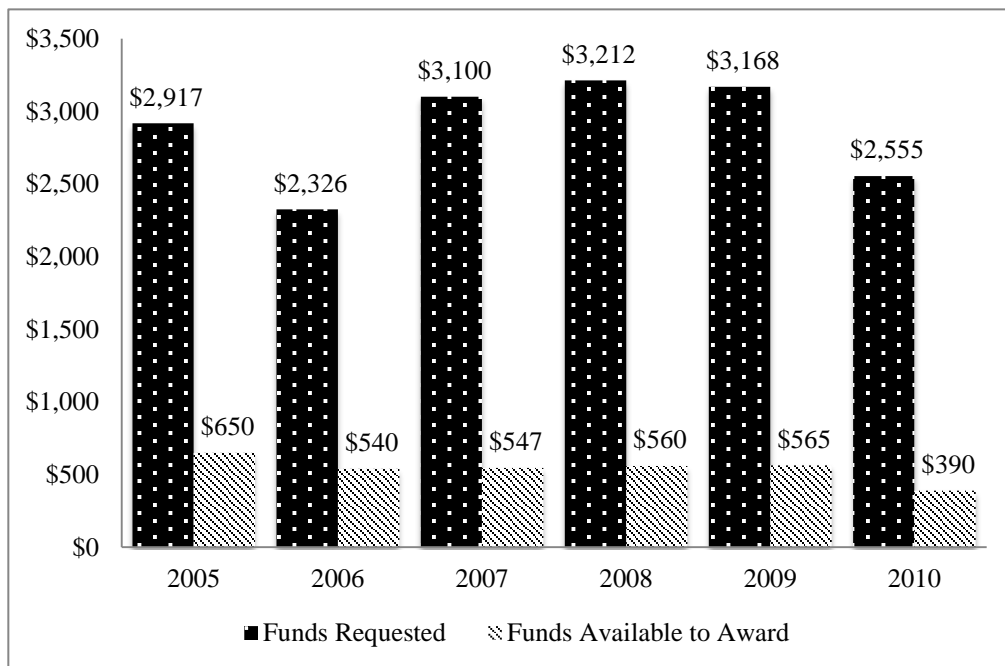
The creation of the AFG in 2001 established federal direct financial support for improvements to local fire services (NAPA, 2007, p. 55). Created in late 2000 through an amendment of Section 33 of the Federal Fire Prevention and Control Act of 1974, the AFG provides direct assistance to local fire departments in order to protect “the health and safety of the public and firefighting personnel against fire and fire-related hazards, and to provide assistance for fire prevention programs” (HR 1168, 106<sup>th</sup> Cong, 2000).

On July 23, 2001, the first AFG awards from the initial funding of \$100 million were announced by FEMA. The grant recipients were from more than 19,700 fire departments who submitted applications totaling almost \$3 billion (FEMA, 2001). Over the first 10 years of the AFG, the annual applications have ranged from 16,000 to 21,000 applications, with an annual total value of \$2.5 to \$3.2 billion (FEMA, 2010a). The annual funding level has fluctuated, from the highest appropriation of \$746 million in 2004 to the lowest appropriation of \$321 million in 2013 (see Table 1).

Table 1. Assistance to Firefighters Grant Program Funding, FY2001 to FY2013 (after Kruger, September 2013, p. 5)

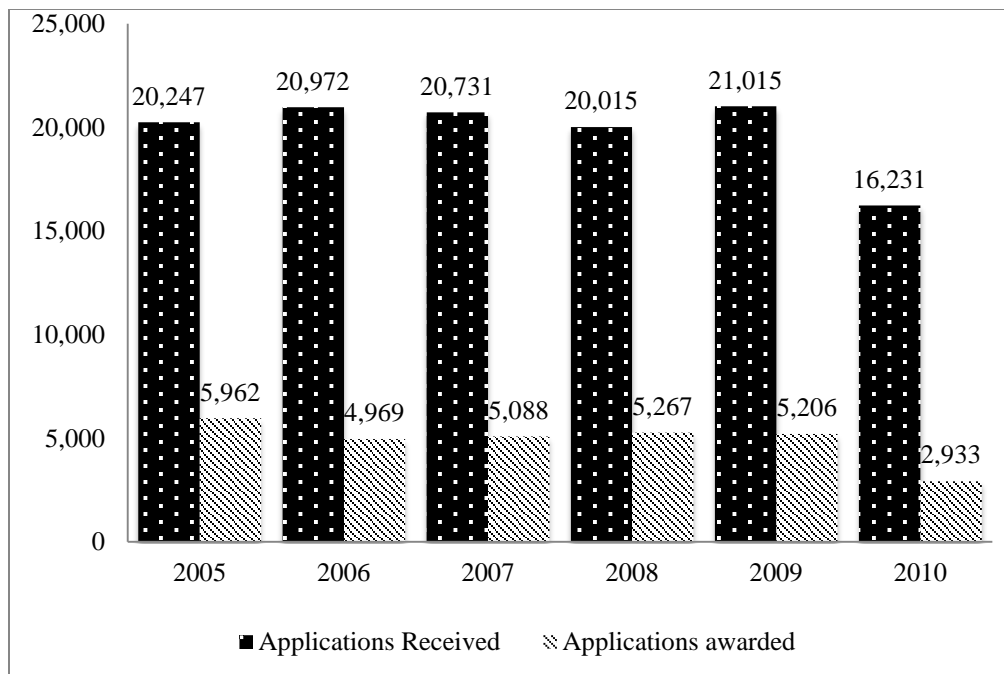
Fiscal Year	Funding for AFG (Dollars in millions)
2001	\$ 100
2002	\$ 360
2003	\$ 745
2004	\$ 746
2005	\$ 650
2006	\$ 540
2007	\$ 547
2008	\$ 560
2009	\$ 565
2010	\$ 390
2011	\$ 405
2012	\$337.5
2013	\$ 321

The AFG has consistently received applications that far exceeded the available funding. For example, in FY2010, over 16,000 applications totaling \$2.6 billion in requests were received, of which the \$390 million in available funds was only able to fund 2,933 applications; thus, the AFG funding met only 13.2 percent of the requested dollars (Kruger, 2013a, p. 18). The significant disparity of funds requested and applications received to funds and applications awards has continued over the life of the AFG (Figures 1 and 2).



*Note: FEMA AFG Annual Reports not yet prepared for 2011, 2012 or 2013*

Figure 1. Assistance to Firefighters Grant Program, Funds Requested and Funds Available to Award, FY2005 to FY2010 (in millions of dollars) (after FEMA, 2005, 2006, 2007, 2008, 2009, 2010)



*Note: FEMA AFG Annual Reports not yet prepared for 2011, 2012 or 2013*

Figure 2. Assistance to Firefighters Grant Program, Applications Received and Applications Funded, FY2005 to FY2010 (after FEMA, 2005, 2006, 2007, 2008, 2009, 2010)

The shortfalls represent vital resources left unfunded necessary for firefighter safety and effective fire response. The AFG has required the activities and equipment requested in the applications to reference the related national fire association or state association standards. The focus is on fire services needs to meet minimum standards and not resources above standards.

The annual cost for local fire service expediently exceed AFG funding. For example, in 2004 local governments managed fire expenditures of more than \$28 billion, plus \$37 billion in volunteer labor value (IAFC, 2004, p. 1). Thus, the annual expenditure was 100 times great than the annual AFG grant awards of \$746 million in FY2004 (NAPA, 2007, p. 59). The annual costs are not anticipated to go down in the future as current resources must be maintained and replaced as they ages, and there is a shortfall of needs related to catastrophic response exists. For example, it is estimated that fire services need \$36.8 billion in funding for equipment and training to respond to chemical, biological and related incidents (Rudman, 2003, p. 34). The Congressional Research



Service report on DHS assistance to state and locals in FY2010 indicated, “As one homeland security threat (natural or man-made) is identified and met, other threats develop and require new homeland security capabilities or processes” (Reese, 2009, p. 5).

The AFG is intended to widely distribute the grants. The law requires a distribution of grants to a diverse mix of professional, volunteer, and combined fire departments of various sizes and in both urban and rural communities (15 U.S.C. 2229(b)(9)). In support of this distribution expectation, after the peer review process for the initial ranking, grant selection is based on an analysis to produce a wide distribution. To further maximize distribution, when grant applications rank similarly, geographic location may be used as a deciding factor.

Earmarks have not been applied to the AFG. Earmarks are used by members of Congress to direct program funds directly to recipients outside of the competitive process. Other DHS grant programs have been subject to earmarks. The FY2008 homeland security bill had 144 earmarks worth \$639.5 million (Taxpayers, 2008). Without earmarks, the AFG has remained a competitive grant program, with the recipients largely determined by fire service peers.

The program has evolved over the last decade. The AFG’s initial grant guidance was three pages. By 2005, the grant guidance had grown to 44 pages, and by 2012, it was 94 pages. FEMA has the discretion to determine which of the 14 categories authorized by Congress will be funded each year. The number of categories of assistance has ranged from six to eight. The various eligible activities have been combined into four program areas. Applicants apply for one or more of the eligible activities of an area to allow grant applications to be comprehensive (FEMA, 2003a, p. 3). Prior to FY 2007, applicants were held to one application per fiscal year. In 2007, the number was raised to two applications and then to three applications in 2008 (FEMA, 2007c).

The AFG awards are subject to a local cost share based on population served by the fire department. The required cost share as of FY2013 was 15 percent for population over 1 million, 10 percent for populations over 20,000 to 1 million, and 5 percent for populations less than 20,000 (Title XVIII of P.L. 112-239). The cost share must be in cash and may not be through in-kind contributions (FEMA, 2013, p. 60).

The program utilizes a direct application and awarding to the local fire services, an element that is highly regarded. According to a program analysis by the U.S. Office of Management and Budget's "Expectmore.gov" initiative, the direct awarding of grants eliminates overhead and indirect costs associated with funds provided multiple layers of government (EOPUS, 2010a).

However, local fire services range in capability to prepare competitive grant applications. FEMA has worked to support application development through online tutorials and a toll-free hotline. FEMA also conducts grant-writing workshops. Starting in 2009, each state has received a \$5,000 grants for grant-writing technical assistance. A mentoring program has been established with 30 to 40 percent of the participants successfully receiving a subsequent grant (GAO, 2009, p. 24). Grant writer fees are reimbursable if declared in application and grant awarded.

The financial assistance to address the increased cost of fire services is not the only perceived benefit of the AFG. For example, while the AFG does not regulate fire departments, the funding may create an incentive for local communities to prioritize their actions along homeland security objectives in order to increase grant eligibility (NAPA, 2007, p. 62).

Fire services have been identified as needing to be "a much more responsive, flexible, dynamic, and improving set of buyers" (NAPA, 2007, p. 76). The National Association of Public Administration has pointed out that the AFG funding encourages improvements in and adoption of new technology and training. The AFG funding also stimulates the manufacturing sector to develop and sell new fire service products.

The National Association of Public Administration Panel report in 2007 identifies the benefits of the AFG from a federal interest standpoint:

- Improved and more adapted organizations
- Fostered a more dynamic commercial marketplaces for faster adoption of new technology
- Improved social equity
- Enhanced intergovernmental cooperation

- Coordinated efforts between local EMS-fire service
- Increased community support for fire services (NAPA, 2007, pp. 71–72).

The AFG remains the only dedicated, viable federal funding option for local fire services, and demand for the AFG remains high. For the FY 2010 application period, DHS received 16,231 applications, of which only 2,555 applications (i.e., 13.2 percent) were able to be funded (Kruger, 2013b, p. 18). Therefore, how should the federal government utilize this limited resource as compared to demand for the most effective contribution to homeland security?

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## **IV. POLICY OPTIONS ANALYSIS**

The Assistance to Firefighters Grant Program (AFG) is a federal grant program to provide financial assistance to local fire services, including emergency medical services. There are also two related federal grants for fire station construction and firefighting staffing not covered in this policy options analysis of the AFG. Since 2001, the AFG has provided over \$6 billion in funds to local fire services through a direct federal application process (Kruger, 2013a, p. 5). The AFG aims to fund the highest priority needs to protect the health and safety of the public and the firefighting personal against fire and fire-related hazards as well as to provide assistance for fire prevention programs.

In meeting the AFG's aim, the National Academy of Public Administration (NAPA) recommended policy makers determine how the AFG "be best employed to meet the framework of new and broader national preparedness goals" (NAPA, 2007, p. 55). During the 2009 AFG reauthorization hearings, the question of altering the approach of grant distribution was a major issue (Kruger, 2011a, p. 3). Identifying an effective approach for any program has been described by Donald F. Kettl, as a balance between the "twin puzzle" of strategy and performance (Kettl, 2002, p.1). The policy options analysis reviewed potential approaches to the AFG funding distribution to increase the effectiveness of the funding for homeland security. It should be noted that to implement any of the options would require congressional approval.

The options reviewed would be implemented without altering the core approach of the AFG that involves the fire services in the development and selection, and awards the grants directly. Each funding year a Criteria Development Panel is held with representatives of nine major fire service organizations to develop the program's criteria and funding priorities (GAO, 2009). Applications are submitted directly to FEMA and initially reviewed for completeness and the responses to activity-specific questions. The applications are then assigned a numeric score. Finally, applications that are determined to be competitive are forwarded to the peer review process (OIG, 2003, p. 16).

The direct fire service involvement in the panel process is considered an "inherent strength" of the program by the DHS' Office of Inspector General (2003, p. 16). Fire

associations, such as the American Fire Service, emphasize the uniqueness of the direct involvement versus other DHS grant programs (American Fire Service, 2002). The GAO cites the fire service participation on the panel as helping the AFG stay connected to current needs and results in a strong local ownership of the process and selection (2009).

Based on the fire services role in homeland security, a number of factors support determining each option's effectiveness to homeland security. First, fire services must have a base level of capability as the primary first responder for homeland security's response mission. Second, fire services needs specialized equipment and training to conduct the types of responses, such as hazardous material response or collapsed building response, required for a catastrophic natural hazard or terrorism incident. Third, fire services must have a regional capability through a coordinated link to surrounding fire departments to mobilize an interoperable and comprehensive response. Fourth, fire services need local support for a successful AFG application in order to prepare the application and provide the required local match funding.

For each of the policy options analyzed, these factors were considered to assess the approaches' merits toward increasing the AFG's support to homeland security goals. What approach will best support the AFG funds being most beneficial towards homeland security?

#### **A. CURRENT APPROACH (FY2001 TO FY2013)**

The AFG has determined award distribution in a relatively consistent approach since its inception in 2001. Congress requires the AFG to be all-hazard in focus and not limit the activities beyond current list of eligible activities in the law (H.R. Report 113-91, 2013). Each year, there have been adjustments to eligible activities and number of applications allowed, based on congressional appropriation requirements and the AFG's annual Criteria Development Panel. For example, the FY2010 program guidance contained an emphasis on applications that have "an immediate effect on life and safety of the firefighters or the community" (FEMA, 2010c, p. 6). As a result, the replacement of used or obsolete equipment received higher priority than applications to fund new risk or to expand functional capabilities (FEMA, 2010c, p. 8).

With the current approach, grant distribution requirements exist related to the types of fire department recipients. The authorizing language sets limitation on the percentage of funds available for the various categories of fire departments. For the FY2010 program, the limit was no more than 45 percent of funds to career departments, no more than 33 percent to combination paid career and volunteer, and no more than 22 percent to all-volunteer departments. Distribution requirement also limits the awards based on the size of the community served. Prior to FY2013, a fire department serving a population of less than 500,000 people were limited to \$1,000,000 in funds, a fire department serving between 500,000 to 1 million people was limited to up to \$1.75 million, and a fire department serving over 1 million people was limited to \$2.75 million (FEMA, 2010c, pp. 26–27). With the reauthorization in 2013, the grant recipient limits were changed, most notably to add a higher grant recipient limit of \$6 million for communities over 1 million people and \$9 million for communities over 2.5 million people (Title XVIII of P.L. 112-239). There are no set geographical formula for the distribution. The program, however, may and has used geography as a final deciding factor between similarly qualified applications (Kruger, 2011b, p. 15).

The AFG includes five different fundable firefighter activities: training, equipment acquisition, personal protection equipment (PPE), wellness and fitness, and modifications to fire stations and facilities. According to the Congressional Budget Office (CBO), the AFG's broad grant eligibility criteria provides local governments more control over the use of federal funds. However, it may also adversely impact and discourage local investments towards national homeland security priorities (CBO, 1990, p. 4).

The current approach requires both the peer-based panel selection process and direct federal-to-local grant approach in the authorizing legislation (Kruger, 2011a, p. 2). The peer review panels consist of representatives of local fire departments and fire service organizations. The panels assess the merits of each application in addressing the needs and capabilities of the fire department based on the size of the community served.

Concerns do exist regarding the AFG's awarding process. For example, a 2009 GAO report found inconsistencies between the priorities indicated by grant program

guidance and the questions in the applications and scoring value (2009). Questions have also been raised regarding which applications are forwarded to the peer review process. The House Report No. 110-181 on the 2008 DHS Appropriation Bill also expressed concern about the number of AFG grant applications that did not reach the peer review process. For example, in 2005 less than half of the 20,972 applications reached the peer review stage and only 13 of those were due to ineligibility (H.R. Rep. No 110-181, 2007).

The AFG's current approach has resulted in fire services having a strong awareness of the grant program and reporting a positive impact. For example, the level of awareness has resulted in approximately 20,000 applications a year from 2001 to 2010 (NAPA, 2007, p. 67). A report by the Congressional Research Service indicates approximately 97 percent of the respondents indicated the AFG had a positive impact on their department's ability to response to incidents (Canada, 2003, p. 12). In addition, the *Third Needs Assessment of Fire Services* concluded the AFG achieved reduction in needs in a number of areas, including personal protective equipment (NFPA, 2011b). However, the assessment emphasized the successes were limited by the scale of the program (NFPA, 2011b).

The current approach has been credited with increasing baseline capability, especially in rural and volunteer fire departments. An assessment by the NFPA determined the "smaller the community protected, the greater the need" (NFPA, 2011b, p. xv). Other needs assessments have consistently shown that equipment, training, and apparatus needs are most acute in volunteer departments (National Volunteer Fire Council [NVFC], 2009). The National Volunteer Fire Council (NVFC) has pointed out that the DHS preparedness grants for terrorism have predominantly gone to urban area (Kruger, 2011a, p. 4). The current approach assists in leveling the opportunity for federal support to fire services in rural areas and by volunteers. Based on the current approach's benefit to rural fire services, the NFVC views the AFG as "well-run, distribution funding in an efficient manner to the most deserving awardees" (NFVC, 2009).

With the current approach, the activities funded may not reflect the applicant's highest priorities toward homeland security, resulting in fire services not addressing their highest needs first. For example, the NFPA standards do not include a requirement for



thermal imaging cameras. Yet, the report *Four Years Later: the Second Needs Assessment Survey of U.S. Fire Services* determined thermal imaging cameras usage has increased from 24 percent to 55 percent due to AFG funding (FEMA, 2006c, p. 9). The increase outpaced the indicated intent to acquire a camera in the first needs assessment in December 2002. The *Matching Assistance to Firefighters Grants to the Reported Needs of the U.S. Fire Service, A Cooperative Study Authorized by U.S. Public Law 108-767, Title XXXVI* determined there is a strong suggestions that the availability of grant funds made the difference in these purchases (FEMA, 2006, pp. 9–10).

The current approach has been working to improve the eligible activities for responses to catastrophic incidents. For example, the emergence of new technologies have created a vast array of options for technology to improve life safety and protect firefighters. To bring more focus and consistency of equipment, as of the FY2007 grant guidance, equipment purchased must be from the DHS Office of Domestic Preparedness' Authorized Equipment List (AEL) (Office of Inspector General [OIG], 2006, p. 22). The AEL defines the equipment eligible under other DHS preparedness grants (OIG, 2006, p. 9–10).

With the current approach, the contributions toward resources related to catastrophic incidents has been limited. The *Third Assessment of U.S. Fire Services Needs*, conducted in 2010, showed little change in fire services ability to address catastrophic incident scenarios (NFPA, 2011b, p. xvi). In part, this may be due to the high percentage of grants being awarded to rural fire departments serving small population. Through FY2009 almost 70 percent of the funds were awarded to rural fire departments and only 10 percent to metropolitan area fire departments (IAFF, 2009, p. 4). Rural fire departments are less likely to submit applications for resource capabilities related to catastrophic incidents that are the priority in homeland security. The International Association of Fire Fighters (IAFF) has advocated for changes in the AFG that would provide a greater proportion of grants to fire departments located in densely populated areas.

A drawback of the current approach to distribution is the limited ability to increase links between neighboring fire departments to reduce duplication, ensure compatibility, and increase coordination. The review focuses on the merit of the application to the needs of the applicant fire service. The AFG application process only has a limited state review to avoid duplication of applications with equipment. For example, if the applications are a duplication of a state grant or inconsistent with the State Communications Interoperability Plan, the application will not be funded by the AFG (FEMA, 2009b, p. 31). However, the state review does not apply to all types of equipment nor does it look for duplication or inconsistencies with neighboring jurisdictions. The DHS Office of the Inspector General's 2003 review of the AFG indicated the program would benefit from giving additional weight to activities that fit into a regional approach and to fire services with regional written mutual aids (OIG, 2003, pp. 22–23). The criteria has changed over the years to give higher priority to activities to improve interoperability.

The current approach is well received and supported by local communities. However, there is a concern that local support for the current approach may be based on the need for an alternate source of firefighting funding rather than the AFG as an additional source for funding. If funding replaces existing local funding, rather than adding to that funding, the grants will not improve overall fire service capability for homeland security. That is, the federal grant substitutes for local funding instead of augmenting it, which is referred to as supplementations. The GAO found in its report *Homeland Security: Reforming Federal Grants to Better Meet Outstanding Needs* that substitution is to be expected in any grant and for each additional federal grant dollar about 60 cents of supplementation results (2003, p. 15).

The AFG reduces the likelihood of supplementation through a required maintenance of effort (MOE), which requires awardees to maintain their local spending at the same levels at the time of application (Brunet, 2005, p. 34). In the OMB's Expectmore.gov review, the MOE requirements were viewed as a method to ensure the federal funds are supplementing local funds and not supplanting them (EOPUS, 2011). MOE requirements are difficult in a decreasing economy as the AFG's required the same level as the average over the preceding two fiscal years. To address economic downturns,

the reauthorization in 2010 altered the MOE requirements to require expenditures to be maintained at or above 80 percent of the average over the preceding two fiscal years (Kruger, 2012, p. 7).

The MOE also has an unintended consequence to local communities who are forward leaning in supporting their fire department's homeland security role in that it benefits communities that have not increased their funding toward homeland security goals, while penalizing those communities that have increase their funding. A GAO report indicates that since the 9/11 terrorist attacks, many local jurisdictions have increased their fire service funding in an effort to enhance homeland security without any state or federal support (2003, p. 5). Through the MOE requirement, these pro-active communities are locked into the higher funding levels in order to receive AFG funds. In contrast, communities that waited for AFG grants before increasing their homeland security related spending have a funding floor that is easier to maintain as part of an AFG grant (GAO, 2003, p. 15).

The federal government, DHS, external entities and the applicants all have determined that the current AFG approach is effective. The Expectmore.gov analysis of the AFG's effectiveness resulted in an exemplary review. Of the 1,015 programs assessed in 2007, the AFG was one of only 193 governmental programs to receive the highest rating of "effective." The AFG received a score of 80 percent on Program Purpose and Design, 88 percent on strategic planning, and 100 percent on both program management and program results (EOPUS, 2010a). A 2007 DHS Program Assessment Rating Tool (PART) review of the AFG determined a 95 percent effective, the second highest rating of any DHS program (NVFC, 2009, p. 2). The first independent evaluation of the AFG was done by the U.S. Department of Agriculture's Leadership Development Academy Executive Potential Program, and it concluded that overall the program was "highly effective in improving the readiness and capabilities of firefighters across the nation" (Kruger, 2011a, p. 13). The *Third Needs Assessment of U.S. Fire Services* compared current needs with needs from the first assessment in 2001 and concluded that there was "ample evidence of impact from the grants" at addressing the needs but insufficient funding to adequately address existing needs (NFPA, 2011b, p. xv).

In summary, the policy analysis of the contribution of the current approach to the AFG funding toward each factor is (Table 2):

Table 2. AFG Current Approach’s Level of Support for each Analysis Factor

Baseline Capability	Medium	
Catastrophic Incident	Medium	
Regional Capability	Medium	
Local Support	High	
<i>Note: Ordinal scale used to indicate directional difference to objective in comparison with other analyzed approaches; it does not represent a specific measurable quantity.</i>		

Baseline capability is supported by the eligibility of a wide variety of activities to address fire services’ needs. The baseline capability contribution would be stronger if grant applications were assessed for alignment with their highest priority need. Catastrophic incidents are also supported due to the baselines capability needed for all responses, the broad eligibility of activities, and a requirement for 44 percent of funding to go to urban fire departments that are most likely to be preparing for catastrophic incidents (Kruger, 2013a). However, the significant funding that goes to rural communities that have less probability for national homeland security incidents limits the available contributions. Regional capability is supported through both the eligibility of and increased priority in the review for interoperability activities. Regional capability building would be even stronger if distribution of the funds had more consideration of surrounding communities’ capability. Local support for the current approach is very strong based on local involvement in the development of annual criteria that provides for broad options for applications based on local decision making.

The AFG has received strong accolades from both the fire service community it serves and the program’s evaluators. Therefore, there is demonstrated merit in continuing the program with the current approach. It sufficiently retains the intent of the program for improving fire department capability and fire fighter safety as part of the homeland security’s response goals.

## **B. FOCUS ON BASELINE CAPABILITY**

Fire services provide the first response in an emergency incident regardless of cause or size. The initial response requires a baseline capability that provides a foundation for all follow-on response resources and activities. The difference in response between a standard and catastrophic incident is the extent of additional resources that are needed to respond comprehensively. The AFG focus on the baseline capability of fire services would support the foundation that is needed for homeland security.

The rationale for focusing the AFG on baseline capability is that advanced or specialized equipment depends upon basic response equipment and life safety of the firefighters. Research indicates fire departments are still deficient in basic equipment, especially in smaller communities. For example, a FEMA report estimated 60 percent of fire departments lack self-contained breathing apparatus (SCBA) for all firefighters per shift (FEMA, 2006, p. vii). In addition, the Insurance Service Organization (ISO), which reviews fire departments as part of its insurance premium rating process, has determined approximately 33 percent of fire departments have the lowest or no recognized protection (2010b, p. 3). The ISO also found almost 900 communities with population under 100,000 and buildings of four stories or more without ladder/aerial apparatus needed to fight fires in multi-story buildings, such as schools, hospitals, and multifamily dwellings (2010b, p. 3).

A challenge with the baseline capability policy option is in the identification of the standard to define baseline capability. Currently, there are no national required fire service standards. Congress has taken steps to address the lack of defined fire service standards. For example, the House reauthorization of the AFG through 2014 the bill included the creation of a task force from members of fire service organizations to recommend ways to increase firefighter safety standards (Kyle & Peluso, 2009). According to the GAO, the absence of standards has impacted the assessment of the AFG's effect on first responder capabilities and performance (2005, p. 6).

Standards are a means of promoting societal goals, such as the protection of health and safety. A standard is a set of characteristics or quantities that describes a feature of a product, process, or service (National Research Council, 1995, p. 9).

Additionally, standards are defined through a number of approaches, including government regulations, eligibility for a grant or program, or trade association voluntary consensus (Canada, 2003, pp. 5–6). Furthermore, standards have been shown to correlate with reduction in losses and, inversely, the failure to meet standards in increased losses. Communities with the worst ISO classification had commercial-property fire losses more than three times as high and homeowner fire losses more than twice as high as communities in the best classification (ISO, 2006).

Though there is no nationwide standard, there are voluntary standards throughout fire service associations. A 1995 National Research Council (NRC) study concluded that voluntary standards are an effective at meeting public needs (Canada, 2003, pp. 12–13). Moreover, the National Research Council has observed that “voluntary consensus standards are often as stringent and demanding as federal regulatory standards would be” (1995, p. 56). Since the fire associations are already directly involvement in the AFG, a potential approach to defining baseline capability needs is the voluntary standards developed by the National Fire Protection Association (NFPA) (NFPA, 2011a).

The NFPA is an independent, nonprofit, voluntary membership organization with membership of more than 60,000 individuals and 115 national trade and professional societies (NFPA, 2013). Its involvement in standards goes back to its beginning. As previously mentioned, NFPA was originally established due to a need for uniform installation of sprinklers (National Research Council, 1995, pp. 38–39). It established the first documented national standards for fire department staffing levels and response times, via Standards 1710 and 1720 (NAPA, 2007, p. 117). As of 2010, the NFPA had established 280 specific fire safety voluntary national standards that were developed through committee consensus, public comment review, and full membership vote.

Increasingly, fire services have embraced the use of NFPA standards. In 2008, the National Volunteer Fire Council (NVFC) adopted the position that volunteer fire departments should train all their personnel to be consistent with NFPA Standard 1001, Fire fighter Professional Qualifications (NVFC, 2009, p. 4). The NVFC believes incorporating NFPA’s standards into the AFG would have a “positive ripple effect by motivating fire departments to work towards these standards” (NVFC, 2009, p. 4). The

AFG with eligible activities that focus on baseline capability would support standardization through with the use of voluntary standards.

The AFG's current approach supports the development of baseline capability through the use of standards in the prioritization of awarded applications. For example, the FY2010 grant guidance gave highest considerations to requests for equipment to bring a fire department into compliance with nationally recommended standards (FEMA, 2010c, p. 8).

As indicated in the book *Standards, Conformity Assessment, and Trade Into the 21 Century*, "The boundary between voluntary and mandatory standards is not always distinct" (National Research Council, 1995, p. 25). As such, fire services may argue the AFG's use of standards for a baseline capability focus results in an unfunded mandate of local communities as the standards become more recognized through the use by the program because the Unfunded Mandates Report Act of 1995 (UMRA) limits federal agencies from imposing requirements without providing funds to pay for the cost. At the current funding level, the AFG could not cover even a fraction of the baseline capability costs for all fire services. However, the UMRA does not prohibit legislation or regulations that are underfunded and permits exemptions for national security needs (1995).

With a focus on baseline capability, an unintended outcome may be an increased dependency on federal funding for fire services. The 9/11 Commission, acknowledging the call for support to local baseline security, expressed the opinion that federal homeland security assistance should not become a program "for general revenue sharing" (National Commission on Terrorist Attacks Upon the United States, 2004, p. 7). Government fiscal academics also warn that intergovernmental grants should not be the means for local entities to "bail them out of fiscal difficulties" (Oates, 1999, p. 1,139).

The baseline capability approach would lead to a more restrictive list of eligible activities and equipment related to basic capability. In addition, a potential consequence of this approach would be a decrease in local fire departments experimenting with different approach at increasing their capability (Canada, 2003, p. 10). Local experimentation provides "learning by doing" on different approaches for improved

response. In 1888, James Bryce observed in his study of the United States government that “Federalism enables a people to try experiments that could not safely be tried in a large centralized country” (Oates, 1999, p. 1,132).

There is a trade-off to funding baseline capabilities. With a baseline capability approach’s focus on the “floor” to fire services, the AFG’s contribution to increasing fire departments’ ability to respond with advanced capabilities needed for national level homeland security incidents is decreased. There are fire services that possess baseline capability and are ready to provide that next level of capability but would not have AFG funding to support the increase. It should be noted that building more highly capable fire services is important for a network of support in the event of a national homeland security incident.

AFG focused on minimum standard of capability also raises the question of to what extent baseline capability supports catastrophic incidents. As Professor Donald Kettl expressed, “Is there a national interest in ensuring at least a minimum level of protection for all citizens?” (2003, p. 8). The 2006 Wingspread Conference report advocates that there is a national interest as through effective response on a daily basis fire services gain the experience required to respond to a large-scale incident (IAFC, 2006, p. 7). The national interest has existed; it has been funding at the local level for decades before the creation of the Department of Homeland Security. Local fire services have the responsibility for to address all events within their service area. The line between a standard and catastrophic incident is not clear: when does a response represent a contribution to the homeland security response mission? Local fire services have funded, or attempted to fund, activities clearly homeland security related due to the previous lack of federal funding. Therefore, AFG support to baseline capability would support their baseline capability already supporting homeland security.

The baseline capability focus may adversely impact fire services opportunity to address base level capability through regional partnerships as well. A regional geographically area’s overall response readiness may not be best served through all partners achieving the same baseline standard if it results in limiting building of higher capabilities in some fire services within the region. The AFG needs to have a funding



approach that supports regional efforts to fill the gaps in regional wide capabilities (NAPA, 2007, p. xix). Therefore, giving priority to baseline capability may reduce regional cooperation and capability, except through the support of interoperability covered in baseline capabilities.

Local governments may view use of standards as a limitation to addressing unique local situations or to prioritizing what is sought from federal funding versus local funding. Policy experts indicate local governments will “rightly worry” that standards “will push them in a direction they think unwise” (Kettl, 2002, p. 7). Fiscal academics have indicated that there is a strong case for locals defining their own needs (Oates, 1999, p. 1,137). With federal prioritization over local determined prioritization, it may become more difficult for a local government to garner the necessary support for the AFG application development and cost share requirements.

In summary, the policy analysis of the baseline capability focused approach to the AFG funding towards homeland security, based on the factors are (Table 3):

Table 3. AFG Baseline Capability Focus’ Level of Support for each Analysis Factor

Baseline Capability	High	
Catastrophic Incident	Low	
Regional Capability	Low	
Local Support	Low	

Baseline capability is strongly supported by AFG with a focus on building local fire services capability related to baseline capability. In addition, it has the added benefit of encouraging voluntary national standards for fire services. Contribution to catastrophic incidents would be significantly limited as the funding towards specialized equipment necessary for catastrophic incidents would be nearly eliminated. Fire services have a baseline capability would have limited access to AFG grants to enable them to increase capability related to catastrophic incidents.

Regional capability is improved through the increased amount of firefighters with baseline capacity but without enhanced capability. A baseline focus would restrict opportunities for fire services to fund activities that further improve their capability and would be available within the geographical area through mutual aid. Thus, the contribution to regional capability would be limited.

Local support for the baseline approach would be strongest from rural communities who at greatest need for baseline capability improvements. But, even rural communities support would be limited by their concern that a capability focus creates an unfunded mandate to meet voluntary national standards while not providing significant federal financial support. It would also limit local fire services from making choices on how best to improve their capability, based on unique aspects of their community.

The option to focus the AFG on baseline capability places a premium on ensuring a minimum standard of functionality in the fire services. Using the voluntary fire association standards as a minimum standard would create a momentum for fire departments to meet the voluntarily standards. However, the negative potentials include increasing a dependency on federal funds for what has traditionally been provided through local funding and the lost opportunity to support fire departments with base level capability to reach a higher standard. Many observers believe that defining a baseline level of preparedness is “a daunting challenge with questionable benefits” (Canada, 2003, p. i). A baseline capability focus to the AFG to improve its effectiveness towards homeland security would provide more limited benefits.

### **C. FOCUS ON CATASTROPHIC INCIDENT CAPABILITY**

“All disasters are local” is a common expression in emergency management, including by the DHS Federal Emergency Management Agency (FEMA) Administrator Craig Fugate (Lurie, 2013). The expression is a reminder that local entities are the first impacted and first to respond to disasters of all sizes. Homeland security is strengthened when there is a link between the ability of local governments and the national strategy (Kettl, 2003, p. 7). The link would be enhanced by an AFG with a focus on the activities and capabilities most associated with the catastrophic incidents addressed in the homeland security strategy.

A disaster is an incident, either an occurrence or event, natural or manmade that requires a response to protect life and safety (U.S. Army, 2008). Most incidents are handled exclusively by the local fire services and do not represent a catastrophic incident. For example, fire services routinely address fires to a single home or small number of homes. The loss is catastrophic for the homeowners and potentially for the local community as well if not contained, but the impacts do not expand to become a catastrophic incident from a homeland security perspective as the response is handled locally and the impacts remain local.

When substantial regional, state or federal response support is needed due to scope or uniqueness the disaster represents a catastrophic incident. The *National Response Framework* defines a catastrophic incident as “any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national moral and/or government functions” (FEMA, 2008, p. CAT-1). Examples of natural hazard catastrophic incidents include a fire, flood, hurricane, or earthquake that impacts hundreds of structures and critically damages infrastructure related to government services and economic activity. A human-caused catastrophic incident includes a chemical, biological, radiological, nuclear or high yield explosive incident (referred to by the Department of Defense as CBRNE) or a wide-spread disruption to critical utilities such as electricity, water, and communication systems, most likely as an act of terrorism.

Most catastrophic incidents result in federal assistance when a presidential major disaster declaration is made through the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The president makes a declaration when the impacts to life safety and property exceed the capability and or capacity of local and state resources. The declaration brings additional federal resources and funding, but it does not replace the unique and needed role of local fire services.

In the aftermath of the 9/11 attacks, national priorities shifted toward preparedness for catastrophic incidents (NAPA, 2007, pp. xv–xvi). Local entities require capabilities to support the national priority. The *Presidential Policy Directive 8* (PPD-8)

directs the federal government to improve preparedness capability to respond to large-scale incidents through building local capability (NAPA, 2007, p. 96). As a result, federal resources related to terrorism have expanded to build state and local capabilities. The Congressional Budget Office (CBO) estimates federal funding related to homeland security tripled from 2001 to 2005 (CBO, 2005, p. 1). Funding for fire services for homeland security went from \$121 million in FY2001 to over \$6 billion in FY2002 as a result of the terrorist attacks in 2001 (CBO, 2004). In addition, the president's budget in 2005 reclassified the AFG as homeland security spending to prepare firefighters for acts of terrorism (CBO, 2004, p. 7).

Federal homeland security funding to fire services, however, has not seen as large a percentage increase in funding as seen in other federal department for local capability. For example, in FY2005 the CBO determined only 17 percent of the nearly \$50B in federal homeland security spending was towards response capability (CBO, 2005, p. 2). Furthermore, the Department of Health and Human Services' budget related to homeland security increased from \$300 million in 2001 to \$4 billion in 2005 (CBO, 2005, pp. 5–6).

The AFG funding selections since its inception has not been shown to contribute to the needs associated with catastrophic incidents. The *Third Needs Assessment of Fire Services* indicates the AFG has resulted in little change in ability of fire services to handle catastrophic incidents (NFPA, 2011b, Abstract). The assessment reported 85 percent of fire services with catastrophic incident responsibility still lack related specialized equipment, which is largely unchanged since the first assessment in 2001 (NFPA, 2011b, p. xii).

Implementing an AFG focused on catastrophic incidents would require the identification of eligible activities. There is difficulty in distinguishing fire services expenditures for local incidents versus national homeland security incidents. The Congressional Budget Office's *Economic and Budget Issue Brief on Federal Funding for Homeland Security* points out the difficulty results from fire service equipment and training crossing a wide range of activities (2005, p. 3). Plus, there is significant overlap of resources for local incidents and those employed in catastrophic incidents. Efforts to reduce the overlap would not be supported by fire services as they purposely seek dual

use equipment and training for localized emergency incidents as well as for terrorism incidents (GAO, 2005, p. 6).

Options exist to identify the eligible activities related to catastrophic incidents. For example, they may be defined based on the existing voluntary standards, such as the National Fire Protection Association (NFPA)'s standards for protective measures for terrorism incidents, Code No. 1994 (NFPA, 2011a). Alternatively, they may be based on the homeland security capabilities relevant to fire services in the *National Preparedness Plan* (NAPA, 2007, p. 105). As another option, the eligible activities could be limited to the equipment eligible under other DHS preparedness grants, such as the DHS Office of Domestic Preparedness' Authorized Equipment List (AEL) (OIG, 2006, pp. 9–10). This approach is already part of the current AFG. As of the FY2007 grant guidance, equipment purchased must be from the AEL (OIG, 2006, p. 22).

Eligible activities for an AFG focused on catastrophic incidents could also be identified based on the equipment and activities most associated with catastrophic incidents, such as CBRNE or hazardous materials (hazmat) equipment and training. Hazmat response is often a component of a catastrophic response, either natural or manmade, as a secondary result of the initial incident. Most fire services lack hazmat capability. Furthermore, the *NFPA's Third Needs Assessment of the US Fire Services* has determined that as of 2010 only 12 percent of local fire services are capable of handling an incident involving chemical/biological agents (NFPA, 2011b, p. 119).

With defined eligible activities for a catastrophic incident capability focus, the AFG would likely benefit from standardizing equipment across fire services. The adoption of standardized equipment for catastrophic incident response has been encouraged, including by the DHS' Science and Technology Directorate (S&T). However, S&T has had no regulatory authority to require the purchase of equipment that conforms to its standards. Therefore, as indicated in a 2003 DHS Office of Inspector General report, "A strict adheres of eligible equipment for AFG program funds to S&T adopted standards would be a means for more influence over national standards" (pp. 1–2).

A focus on catastrophic incidents would also create a concern regarding significant overlap with other federal funding programs' eligible activities, while disallowing activities not eligible under the other homeland security programs. It would also create an additional concentration of DHS grant funding on terrorism that local fire responders believe is too heavily focused on terrorism (GAO, 2005, p. 6). The overlap could jeopardize the AFG as it would lose its unique focus on local response capability and firefighter safety. An average of 61 percent of AFG grants have funded activities not allowable under other federal grant programs (EOPUS, 2010a). During the 2009 program reauthorization discussion, U.S. Representative James Oberstar emphasized that the AFG was initiated prior to the 9/11 terrorist attacks as a local fire service funding resource and not as a national anti-terrorism program.

The catastrophic incident approach would strictly limit AFG support to baseline capability. As a consequence, there would be a significant reduction in federal support available to small, rural fire departments (Kruger, 2011a, p 4). The AFG is unique to other DHS grant programs as it serves communities of all size and distributes funding based on need rather than population (NVFC, 2009, p. 4). With a focus on catastrophic incidents, larger populated communities with more demonstrated need for the homeland security eligible activities would receive more funding. Smaller fire departments lack the ability to demonstrate a connection to terrorism (Kyle and Peluso, 2009). While the demonstrated need is lower, small and rural communities are not without a threat from homeland security incidents. Professor Donald F. Kettl, stated in his paper "The States and Homeland Security: Building the Missing Link" that "It is a serious error to assume that homeland security is only a big-city problem" (Kettl, 2003, p. 13).

Regional capability, identified in the 2007 DHS *National Preparedness Guidance* as among the most urgent needs, faces challenges with the approach (GAO, 2005, p. 21). Each fire department within a given region does not require all of the specific resources related to catastrophic incidents. As stated in the University of Southern California report from the Center for Risk and Economic Analysis of Terrorism Events, "First responder capabilities need to be placed in an economic context of how to concentrate limited homeland security resources to areas of greatest need" (Brunet, 2005, p. iii). Therefore, with fewer eligible activities fire services may find themselves in direct competition for

funding rather than building regional capability to create a stronger overall region. Without careful review for regional duplication, fire services across the nation may face the problem of too much or too little specialized resources within a geographic area.

Garnering local support for the AFG may be impacted if the eligible activities were to be focused on catastrophic incident capabilities due to local applicant frustration at having reduced options to meet their identified priority needs. The 1973 *American Burning* report stated, “Local governments appreciate special local conditions and needs more fully than an arm of the Federal Government would be able to do” (National Commission on Fire Prevention and Control, 1973). More recently, in his analysis of homeland security budgets, the Heritage Foundation Visiting Fellow Matt Mayer identified the diverse needs in the country (2009, p. 1). Therefore, restricting local fire departments to certain categories of funding limits their ability to prioritize what is most needed to improve their capability based on their local assessments.

In summary, the policy analysis of AFG program funding focused on catastrophic incident capability contributions based on the factors (Table 4):

Table 4. AFG Catastrophic Incident Capability Focus’ Level of Support for each Analysis Factor

Baseline Capability	Low	
Catastrophic Incident	High	
Regional Capability	Medium	
Local Support	Low	

If it focused on catastrophic incidents, baseline capability would not have significant support as the eligible activities result in a concentration of grants for the large and urban fire services to expand their capabilities for unique situations. The low support toward baseline capability is a critical loss as there is not a clear alternative federal support to replace AFG grants.

Catastrophic incidents would be strongly supported if AFG awards focused on activities related to catastrophic incidents. The focus would target those capabilities

related to large-scale to catastrophic events and the unique resources needed. The resulting overlap with other DHS homeland security grants would make the AFG difficult to defend against consolidation and jeopardize continued funding. The increased strength at addressing catastrophic incidents would result in an overall reduction in support for the AFG.

Regional capability is increased when specialized equipment and resources are available for use within the geographical region, especially as most specialized equipment is not needed by every fire service on a daily basis for local incidents. However, the competition within a region for the funding may reduce cooperation. Additionally, some region's capability may best be improved through addressing baseline capability of some of their local fire services that would have reduced or no eligibility.

Local support for the catastrophic incident focus would have support from large communities that currently receive less of the overall AFG funding under the current approach. However, there are significant more local communities that would be less inclined to provide the support that drives the fire service industry and associations support for the AFG under the current approach.

The consequences of an AFG focused on catastrophic incidents are not positive. The focus would lead more to restrictive funding, for example to address baseline capability, than creating a higher degree of effectiveness to homeland security goals. The American Fire Service's AFG Position Paper stated, "It is crucial that the Assistance to Firefighters grant program remains separate and distinct from any new funding programs for first responders" (American Fire Service, 2002). While the approach would provide a more direct relationship to homeland security goals, it would undermine the comprehensive response capability needs for these incidents through also supporting baseline capability.

#### **D. FOCUS ON INCREASED REGIONAL CAPABILITY**

Responding to incidents whether caused by fires, natural hazards or acts of terrorism, often require the support of multiple fire departments from beyond the directly impacted area to provide for the immediate life safety of people and mitigation of the



incident. A successful response requires “a close coordination and cooperation before, during and after an incident,” according to the U.S. Fire Administration’s *Responding to Incidents of National Consequences* (FEMA, 2004, p. 13). A policy option to increase the effectiveness of the AFG toward homeland security goals is to focus on the regional benefit of an application. The intent of the regional capability emphasis is to increase the capability and interoperability available across jurisdictions to empower the response.

Regional cooperation among fire departments has a long history, from early nineteenth century catastrophic fires to the present large-scale perils. Increased regionalization was identified in the 1973 *American Burning* report, by the National Commission on Fire Prevention and Control, as one of the “Alternatives for the Future” for fire services (p. 23). In addition, in 1975, an International City Managers Association study determined about 60 percent of cities with over 10,000 population answered calls outside of their city limits (Swersey et al., 1975, p. 16). From 1983 to 2002, the number of mutual-aid calls rose by more than 150 percent (ISO, 2010, p. 7). In 2012, fire departments responded to 1.3 million mutual aid calls, which has over 12 percent of all non-medical calls (NFPA, 2013).

Regional capability is critical because state and federal resources require significant time to mobilize to respond to an incident. Neighboring fire services are able to meet the immediate needs until the arrival of the state and federal resources (GAO, 2002c, p. 17). It also allows for quick use of needed equipment and expertise not standard in every fire department (GAO, 2003, p. 18). The resulting regional cooperation provides both increased capacity and capability to address the incident.

Response capability is enhanced within a region through adding a resource, building upon an existing resource, improving interoperability or filling a weak gap among the fire services within the area. Regional projects are meant to facilitate interoperability and efficiency among the participating jurisdictions (FEMA, 2010c, p. 51). The AFG defines a regional project as “one in which multiple organizations serving more than one local jurisdiction benefits directly from the activities implemented with the grant funds” (p. 63).

Support has grown for determining and considering regional capability benefits in AFG applications. Local officials have emphasized the importance of regional cooperation as a means of addressing outstanding needs (GAO, 2003). A NAPA panel on the AFG recommended applications be consider along with past awards and current applications from the geographic area to support a coherent regional approach across (NAPA, 2007, p. 162). Additionally, the congressional committee for the FY2009 appropriations directed FEMA to encourage regional applications (Kruger, 2009, pp. 3–4). The AFG has been utilizing regional considerations in application selections in order to promote regional integration, interoperable communication, mutual aid agreements, and equipment capabilities (FEMA, 2007c, p. 1). As of the FY2012 grant guidance, regional projects are limited to resources that are distributed across the region and do not include a resource to be housed by one fire department available through mutual aid (FEMA, 2012a, p. 18).

With an AFG focused on regional capability, support for baseline capability would be reduced due to the emphasis on regional capability versus regional capacity that improved baseline capability supports. Additionally, remote or rural fire services who are in greatest need for baseline capability would be less competitive for AFG funding. Baseline capability still has the potential to be supported when the fire service’s baseline capability represents a gap in the regional response capability due to diminished capacity of basic firefighting resources.

Regional capability improvements are beneficial for catastrophic incidents, as these incidents are not limited to an exact local jurisdiction; they involve immediate response from beyond the local jurisdiction’s fire service. In a catastrophic incident, there is a spill over to multiple fire services to obtain the support for an effective immediate response (GAO, 2003, p. 18). They are labor intensive, and regional capability would facilitate interoperability for the fire departments working together.

A regional capability focused AFG would strongly support specialized resources related to catastrophic incidents, when the AFG funded activity provides a resource not previously located in the regional area. Resources are needed to respond to catastrophic incidents that are not associated with the more common, local incidents. Catastrophic

incident related resources that may effectively be used on a regional basis may include ladder trucks, hazardous material response equipment, confined space rescue equipment, and training centers. Due to their limited use, not every fire department within the region requires the additional capability resources. The *Third Needs Assessment of U.S. Fire Services Needs* concluded shared resources may be the best approach to “respond to an unusually challenging incident that is very unlikely within the community but not so unlikely within the entire region” (NFPA, 2011b, p. xvi). Furthermore, a GAO report on intergovernmental partnerships identified the spread of training and equipment among neighboring communities as a method to provide economies of scale across a region (GAO, 2002c, p. 17). Currently, the approach of shared resources to improve regional capability is not considered for AFG funding.

The regional capability focus represents a cost-effective means of addressing fire service unmet needs. Due to the high costs of specialized resources, a more cost-effective approach is for the resources to be available regionally rather than for all fire services having the specialized capabilities. Pooling of resources is advocated as an efficient and most cost effective approach for homeland security related resources in the Council on Foreign Relation’s report, *Emergency Responders: Drastically Underfunded, Dangerously Unprepared* (Metzel, 2003). In 2011, the *National Preparedness Goal* as part of PPD-8 included an objective to make the most effective use of the limited resources for homeland security.

There are additional benefits to an AFG focused on regional efforts, beyond increased capacity and capability. The regional approach may also reduce competition for funding among neighboring jurisdictions and improve coordinated services, according to Neal R. Peirce in his article *Homeland Security: Can We Spend the Billions Better?* (2004). Therefore, a potential advantage of selection of AFG grants that are based on increased regional capability improvements could be a shift from a winner and loser scenario of individual fire services to a collaborative scenario where even those fire services that do not receive a direct grant benefit.

By making regional capability the focus of AFG awards, it would create a positive incentive and reward for consideration benefits beyond the fire services’ direct benefit. A

CBO report explains that a fire services will have no incentive to provide what is most beneficial for the nation if they must pay all of the associated cost for the benefit that will be shared (CBO, 1990, p. 6). An AFG that is focused on efforts with regional capability benefit rather than the direct fire service would encourage consideration of homeland security goals.

The prioritization on regional capability in AFG applications would be consistent with one of the indicated benefit of inter-government grants: to compensate local governments for the societal benefits of their local investments that spill over into surrounding communities. This would result in the incorporation of the spillover benefits in the decision-making regarding prepared applications (Oates, 1999, p. 1,127). According to Richard M. Bird, this supports the optimization of the public service benefit (Bird, 1999, p. 151). The Congressional Budget Office has stated the federal government could encourage local governments to invest in infrastructure investments by contributing to the portion of the state and local expense that correspond to the uncompensated benefits that spill over into neighboring communities (CBO, 1990, p. 6).

Local support for the AFG would likely not be increased by a regional capability focus to grant selection. In the state of Washington, the Century Foundation study indicated fire services were reluctant to surrender local autonomy even though they acknowledged the need for improved coordination (Kettl, 2003, p. 10). In part, the resistance comes from the strong local ownership for fire services, due to the local funding of on-going operations through taxes and fundraisers (National Commission on Fire Prevention and Control, 1973, p. 24). Some local support would be retained as the AFG funding due to the augmentation of the regional firefighting capability.

In summary, the policy analysis of AFG program funding focused on regional capabilities would contribute to the considered factors, as follows (Table 5).

Table 5. AFG Regional Capability Emphasis' Level of Support for each Analysis Factor

Baseline Capability	Low	
Catastrophic Incidents	Medium	
Regional Capability	High	
Local Support	Low	

With an emphasis on region capabilities, baseline capabilities would have less improvement due to the reduced direct eligibility. The regional focus of the eligible activities would likely result in a concentration of grants to large and urban fire services, who are best able to demonstrate their need for interoperability and ability to utilize regional based resources. Rural fire services with the greatest baseline capability needs would be less able to show the regional benefit to improved capability.

On the other hand, catastrophic incidents would be supported through a regional capability focus as the approach would direct more funds toward the specialized equipment and resources required for their response. However, while supporting capability issues, the reduced support to improving capacity through baseline capability would reduce overall response resources needed in a large-scale event. Additionally, the focus would create an increased overlap with other homeland security grant funds, which could jeopardize the existence of the AFG.

A regional capability approach improves homeland security, as interoperability is enhanced and specialist resources are available for use within the region. Importantly, it would encourage valuable dialogue between fire services within a region on what are the priority resources, whether capacity or capability related, and reduce unneeded overlap of resources within a region. It represents a more cost-effective approach that rewards fire services in considering the needs of the surrounding communities when making decisions about applications. A fire service applying for a resource with demonstrated regional need is rewarded for the spill over benefit that goes beyond its jurisdiction by the increased likelihood for funding.

Local support for the regional focus has limitations as related to the reduced access and reduction of local autonomy perceived in this approach. Under the regional capability approach, many of the eligible activities would only be needed by a few fire services within a region, thus creating more competition and less access to a grant. Additionally, the approach would require reduced local autonomy in determining local priorities over the needs of the larger region.

Regional capability is a vital aspect of homeland security as demonstrated by the partnerships required to meet the responses for past incidents. A Century Foundation report points out that the nation's homeland will be critically dependent on the ability of local governments to act to overcome barriers to coordination and integration (Kettl, 2003). Homeland security goals are broad in scope of what events need to be addressed, and what resources need to come to play. Given the uncertain created by the broad scope, the option of having AFG grants focus on regional activities allows for building the network of resources from local entities in a cost-effective manner. AFG focused on regional capability would support the ongoing development of a national network of quickly deployable response capabilities.

## **V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **A. SUMMARY**

Homeland security is a complex mission that includes the responsibility to respond to any event threatening life safety, infrastructure, and economic stability. The Government Accountability Office's former National Preparedness Managing Director, Randall A. Yim, said, "Because the national security threat is diffuse and the challenge is highly intergovernmental, national policy makers must formulate strategies with a firm understanding of the interests, capacity, and challenges facing those governments in addressing these issues" (GAO, 2002a, p. 2). The federal government depends on local fire services to meet the response mission of homeland security. Fire services are uniquely situated to be the first responders to all incidents in the homeland. Therefore, our nation's vital network of over 30,000 local-based fire departments and emergency medical services must be sustained for the response responsibility of homeland security. As a result, the federal government has increasingly acknowledged its responsibility to support the fire services, especially as it relates to their homeland security role.

Historically, the financial costs of fire services have been almost exclusively borne by the local communities. During first half of the twentieth century, fire services cost rose from \$0.51 per capita to \$5.53 (Bradford, Malt & Oates, 1969, p. 198). Fire services have experienced a substantial additional cost over the last 50 years in part due to their expanded responsibilities (FEMA, 2000a, p. 103). Adjusted for inflation, local expenditures for fire services increased from 20 percent of the local expenditure in 1980 to 35 percent by 2010 (Hall, 2013, p. 20). The mounting increased costs were making it difficult for fire services to maintain existing capability and take advantage of new resources for firefighter safety and community protection. As a result, support for federal assistance to local fire services garnered significant momentum for congressional action.

The Assistance to Firefighters Grant Program (AFG) was authorized by the United States Congress in 2000. The purpose is to "enhance through direct financial assistance, the health and safety of the public and firefighting personnel and to provide a continuum of support for emergency responders regarding fire, medical and all hazard

events” (FEMA, 2013, p. 3). Congressional advocates of the AFG emphasize the program pre-dates the terrorist attacks of September 11 and was intended to provide support to the fire service response mission from an all-hazards perspective.

From 2001 to 2012, the AFG awarded over \$6 billion in grants directly to local fire services, with annual awards of \$347 million in 2013 (Kruger, 2013b). The AFG’s funding level is insufficient to address unmet needs of fire services in support of the homeland security. The annual amount of AFG awards represent significantly less than one percent of the annual cost for fire services in the nation. Additionally, the \$6 billion over the first 10 years of the AFG represents less than 10 percent of the estimated \$60.2 billion of additional needs of fire services (Rudman, 2003, pp. 34–35).

After over 10 years of awarding grants, a policy option analysis of the AFG provides a review of whether the current approach to distribution of grant funds could be altered to maximize the program’s contribution to national homeland security (Kruger, 2011a, p. 3). As the GAO has reported, the design of federal policy plays a “vital role in determining success and ensuring that scarce federal dollars are used to achieve critical national goals” (GAO, 2002b, p. 12).

Each year the AFG utilizes local fire professionals to help develop the criteria based on the annual congressional appropriations direction for the funding. A change in methodology to grant distribution would require congressional support and approval. The policy options analysis is valuable for supporting the current approach or recommending a different methodology to the United States Congress and the criteria panel.

For the policy options analysis of the AFG, four funding distribution options were evaluated against four analysis factors. The funding distribution options were the program’s current approach, a baseline capability focus, a catastrophic incident focus, and a regional capability emphasis. The options each represent a different methodology to tailoring the criteria for awarding the grants.

Analysis factors, which support successful local fire service contributions to homeland security, were utilized for each option to provide a consistent review. The factors were improvements to fire department baseline capability, resources for responding to catastrophic incidents, regional capability, and level of local support for the



AFG. To summarize the analysis an ordinal scale of low, medium and high was used for comparison of the options (Table 6 and Figure 3).

Table 6. Summary of AFG Policy Options' Support for Each Analysis Factor

	Base Capability Analysis Factor	Catastrophic Incident Capability Analysis Factor	Regional Capability Analysis Factor	Local Support Analysis Factor
Current Approach	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>	<i>High</i>
Base Capability Focus	<i>High</i>	<i>Low</i>	<i>Low</i>	<i>Medium</i>
Catastrophic Incident Capability Focus	<i>Low</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
Regional Capability Focus	<i>Low</i>	<i>Medium</i>	<i>High</i>	<i>Low</i>

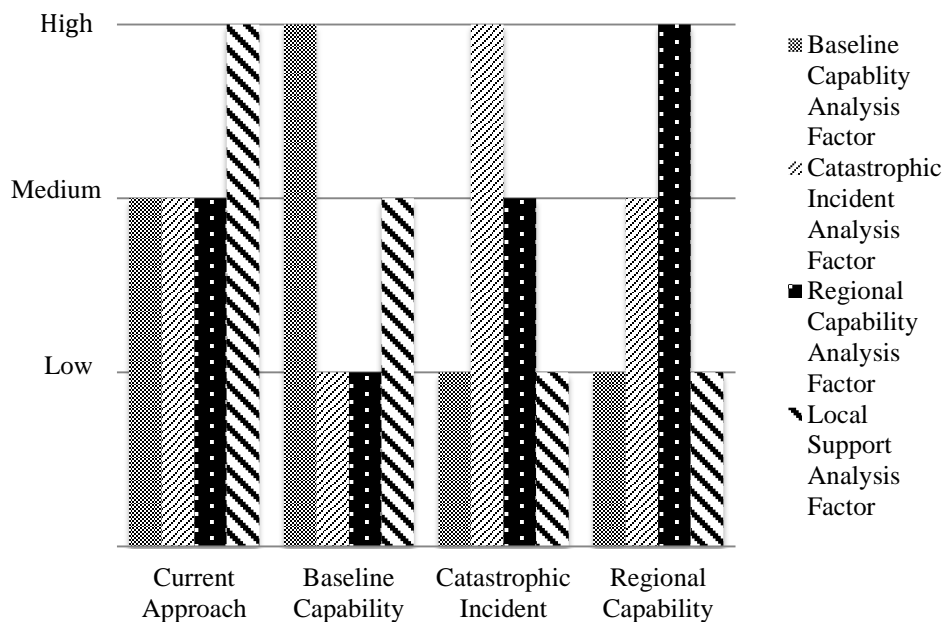


Figure 3. Summary of AFG Policy Options' Support for each Analysis Factor

### 1. Baseline Capability Analysis Factor

The baseline capability factor has a direct relationship to the intention of the AFG to support local fire services, to address the increased cost and complexity of fire services, and improve firefighter safety. In the last 50 years, the cost of fire services per capita has risen significantly and the cost has doubled over the time period of 1980 to 2007 (NAPA, 2010d, p. iv). If local fire services fall too far behind in their capability due to the cost, it impacts the nation's homeland security. It is through the response conducted with baseline capability that fire services practice their operations and interoperability to provide the critical fire responder role for homeland security.

The current approach of the AFG provides for significant support of the baseline capability through its diverse distribution approach, and it would provide for the strongest improvement to basic needs for firefighter safety and response due to the exclusive focus. However, with this focus, grants are awarded more to rural communities, which have a lower probability for catastrophic events most associated with homeland security. Alternatively, a catastrophic incident focus would have limited support to baseline capability. The related specialized activities typically require fire services to already have

baseline capability to utilize these additional resources. The fourth focus option, the regional capability focus, has the potential to support baseline capability when the basic needs funded addresses regional capacity and interoperability. Nonetheless, due to the approach's shared resources and limited need for the unique resources within a geographical area, regional competition would increase among fire services for AFG grants (Figure 4).

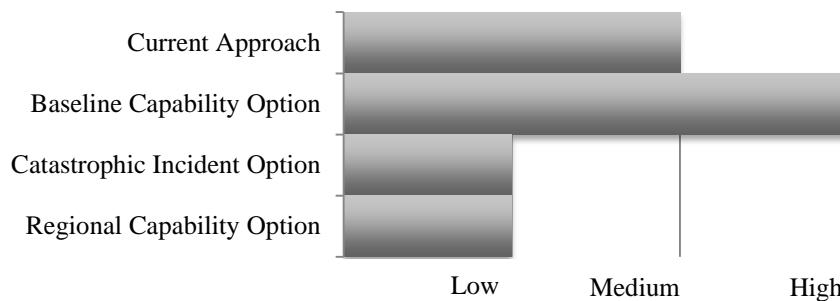


Figure 4. Baseline Capability Analysis Factor Applied to AFG Options

## 2. Catastrophic Incident Capability Analysis Factor

The second factor for the analysis of the distribution options is the capability related to catastrophic incidents, such as a large-scale hurricane or a terrorist bombing. Federal grants for homeland security operate without clearly defined national strategic priorities (Painter, 2013, p. 2). The analysis of benefit to responding to catastrophic incidents is impacted by the lack of national strategic priorities.

The current approach includes eligible resources related to catastrophic incidents and attempts to ensure they are consistent with state standards. With the AFG focused on baseline capability, specialty capabilities most associated with catastrophic incidents are underrepresented in the awarded grants. Alternatively, focus on catastrophic incidents for the grants would have the strongest benefit to the capability for catastrophic incidents due to the exclusive focus. However, since limited AFG funds would be available to build

capacity, there would potentially be specialized resources funded but with insufficient numbers of firefighters with the basic resources to operate them. More importantly, an AFG with this focus would have significant overlap with homeland security grants available for similar activities. The final alternative, the regional capability focus, would allow for a more coordinated approach to catastrophic incidents through improved interoperability and availability of special resources that do not need to be situated in every fire station. However, there is still the potential for the creation of unhealthy competition within a region to house the resource for the geographic area. The result may lead to a reduction in the unique nature of AFG that provides for both local and elected official support for the program (Figure 5).

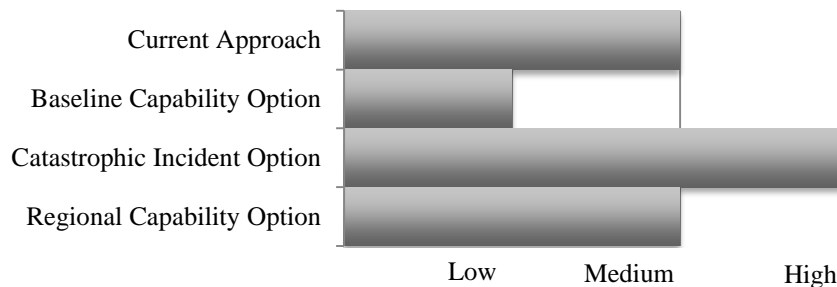


Figure 5. Catastrophic Incident Capability Factor Applied to AFG Options

### 3. Regional Capability Analysis Factor

The third factor recognizes the need for a cooperative regional capability to support catastrophic incidents that require an extensive response. Regional capability is dependent upon both interoperability and the access to specialized equipment and resources. Response to most catastrophic incidents has demonstrated that the urgent needs are most immediately and effectively met in the surrounding geographic area until state or federal resources can arrive.

The current approach has increased the review of improvements to regional capability in the grant applications with a focus on interoperability and distribution of resources across the region. A baseline focus of grant distribution provides minimal coordination on resources across a region as its focus is on building the resources that all

fire services require. Alternatively, the focus on catastrophic incidents in grant distribution has the potential to build regional capability. However, without a clear process in the awarding to review for regional capability, there could be a redundancy of the specialized resources in some areas and too few resources in another region. On the other hand, a focus on grant distribution based on regional capability needs would be most supportive of this factor. It would allow for both baseline improvements and specialized resource needs, whichever is needed within a region to respond to catastrophic incidents. Finally, the regional capability focus would reduce local based decisions on AFG applications as regionally determined needs would take priority over locally defined needs (Figure 6).

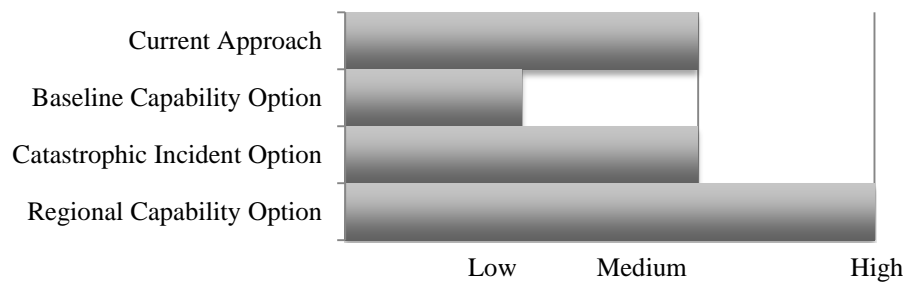


Figure 6. Regional Capability Factor Applied to AFG Options

#### 4. Local Support Analysis Factor

The local support factor is critical due to both the required matching grant funding and the on-going maintenance expense covered by the community. Additionally local support is necessary to encourage the continuation of strong congressional support for the AFG.

The current approach allows for local support from rural, suburban, and urban fire services and their communities, thus creating the greatest support. The consistent level of grant applications shows that local support for the program remains strong. With a focus on baseline capability, local support is strong from rural and small fire services across the nation due to their changing community population or aging resources in need of

replacement. In contrast, if the grant distribution focused on catastrophic incidents, it would result in fewer applicants due to the more limited eligible activities. With the increased overlap with other homeland security grant programs, support for AFG would be reduced. The regional capability approach would require local communities to give away some of their autonomy in decision making through the regional process. Additionally, it would create increased competition within a region that local communities may not want to contend with, thus reducing support local support with this approach. The history of local-based fire services, shows that they are resistant to giving up control, and thus AFG might lose some of the needed local support for the program (Figure 7).

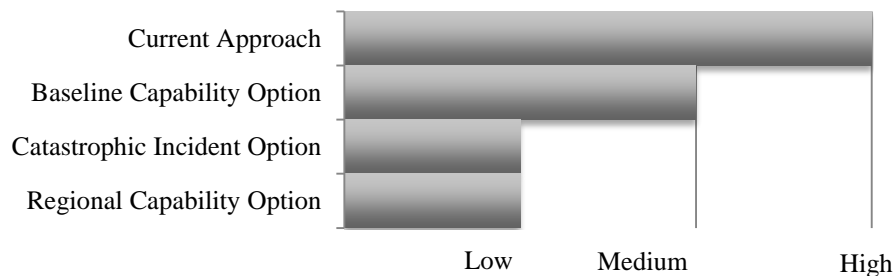


Figure 7. Local Support Factor Applied to AFG Options

## B. CONCLUSIONS

Available studies of the AFG have determined it to be a well-functioning grant program, which has provided billions of dollars in grant money since its inception. The direct involvement of the fire service communities in the criteria development and selection panel supports its implantation as intended by Congress. The policy options analysis was intended to review approaches for increasing the effectiveness of the limited funding towards homeland security goals. Careful analysis was necessary as a significant adjustment has the potential to move the AFG away from the original congressional intent, to increase duplication with other federal funding sources, and to jeopardize the balance of support it has from congressional members, fire service organizations, and local communities.

Continuing the AFG's current approach to grant distribution represents the strongest and lowest risk option, with significant returns to fire services' support to homeland security. The current approach recognizes that all fire services play a role in the nation's homeland security as the primary fire responders, regardless of whether the event is man-caused or natural in a rural, suburban, or urban setting. As such, it allows for a diverse distribution of grants so as to not leave any of the fire services removed from the potential for federal support. The broad grant eligibility criteria provides fire services more control over the use of federal funds towards their highest priorities (CBO, 1990, p. 4).

A strong reason to retrain the program with its current approach to grant distribution is the strong support by the fire community it serves. For example, the National Volunteer Fire Council's (NVFC) main priority for the AFG, as stated during its reauthorization in 2009, is for the program's continuation without substantial changes. It believe the program is "well-run, distributing funding in an efficient manner to the most deserving awardees" (NVFC, 2009, p. 7). The strong support of fire departments and their associations of the AFG is a testament to their belief in its contribution to their needs. A large-scale change in approach may jeopardize the positive regard of the community the AFG serves.

The most significant criticisms of the current approach to grant distribution is the identified tradeoff and disconnections as well as the funded projects, which are more isolated locally than tied to regional capabilities (NAPA, 2007, p. 91). One of the tradeoffs is the broad grant eligibility, which may discourage local investments towards homeland security priorities (CBO, 1990, p. 4). One example of disconnection is the lack of national standards for fire services that would target the various grants and move towards a consistent objective of homeland security. With the current approach, the disconnect will be minimized in the long run due to the increasing support of voluntary and state standards in the selection criteria. Additionally, the current approach is working to address isolation of projects by placing more review on regional capabilities or overlap.

Incorporating regional capability needs to the current approach would be a valuable approach for further maximizing the funding to increase interoperability and build capabilities for homeland security. The DHS *National Preparedness Guidance* in April 2007 included expanding regional cooperation among the most urgent needs for enhancing national first responder preparedness capabilities (GAO, 2005, p. 21). Starting in 2007, the AFG has increased the consideration of regional implementations of the grants awards. This trend has considerable value toward meeting homeland security goals as it aligns resources within areas to reduce situations of redundancy or the lack of a critical resource within a geographic area. Equipment purchased without improved collaboration may waste funding and impact the reduction to the nation's preparedness (Kettl, 2002 p. 11). However, the policy option analysis indicates that focus on regional capability is not recommended as it would potentially adversely reduce funding to baseline capability and to rural fire services.

Both of the distribution options analyzed that would narrow the eligible activities, the baseline capability and catastrophic incident capability, are not recommended. In addition to limiting the number of fire services that would be competitive, the approach could lead applicants to pursue what is eligible under the AFG versus what is their priority or the region's priority. It would distort where federal funding is being invested in local fire department capability, potentially leaving more important locally identified gaps unfunded. The Congressional Budget Office's report on federal subsidies stated the "proximity of local governments to local problems creates the situation to potentially choose more efficient efforts when their choices are not distorted by the availability of federal subsidies" (1990, p. 4).

Of the four policy options analyzed, the approach to focus on catastrophic incidents represents the least favorable. The resulting limited scope of eligible activities has a high redundancy with other federal funding. This poses a risk to justifying the program as a stand-alone program. Additionally, the ineligible fire service activities under this focus do not have an alternative for federal funding. The American Fire Service (2002) position paper on the Department of Homeland Security emphasized that it was crucial for the AFG to remain "separate and distinct" due to the unique direct local involvement not found in other homeland security grant programs. The catastrophic



incident focus also eliminates funding for critical first responders that homeland security resources are dependent upon in an incident.

### **C. RECOMMENDATION**

Our firemen, our emergency responders ... are the defenders of this homeland. And the truth is that whether they have the equipment or not, as we saw in New York and here in Washington, these brave young men and women will enter whatever the hazard is, even not knowing what it is, to help fellow citizens. Knowing that, we have an enormous obligation as a country and as states and cities to assure that our emergency responders are well equipped.

–Jamie Metzl, Project Director for the Independent Task Force on Emergency Responders, Council on Foreign Relations

The creation of the Assistance to Firefighters Grant Program (AFG) was the fulfillment of the acknowledgement in the *American Burning* report in 1973 that the federal government's role in fire services includes financial assistance to support shortfalls. The fire services strategic role as first responder to homeland security incidents is a significant reason for the financial shortfalls. However, the AFG is not funded at a level to address the shortfall in local fire service funding. Therefore, maximizing the available AFG funding towards building homeland security is crucial.

Based on the policy options analysis of four methodologies for grant distribution, the current approach to the AFG provides the strongest maximization for homeland security goals. In addition, the current approach to grant distribution provides the most balanced positive support across the analysis factors, with no analysis factor having a low benefit from the approach. Regional considerations as part of the current process should be encouraged to continue, which is consistent with an independent review of AFG that recommended an increased regional cooperation (NAPA, 2007).

Most importantly, if changes are determined needed, a gradual shift is encouraged to protect the effectiveness of the AFG (NAPA, 2007, p. xviii). AFG's strength is the priority setting that is driven by the fire community and a well-respected peer review process (Kruger, 2011a, p. 13). These strengths are based on a strong ownership and direction by local fire services and their communities. David Muhlhausen of the Heritage Center indicated *America Burning* emphasized fire safety should remain primarily the

responsibility of local governments “where familiarity exists with local conditions and the people being served” (Muhlhausen, 2009). This premise is also true for achieving homeland security goals.

The nation’s local fire services are viewed as a “domestic defender” against “natural and human-made disasters and other emergencies that extend far beyond one geopolitical boundary” (IAFC, 2005a, p. 3). In supporting homeland security, it is vital the AFG functions to complement and reinforce the responsibilities of the fire services to determine and obtain the resources needed to response in the event of a homeland security incident (NAPA, 2007, pp. 76–77). Consistent with an emphasis in *American Burning*, the AFG’s current approach to grant distribution supports the fire services as being the primarily the responsibility of local governments and allows the local governments, with understanding of local conditions, to determined their federal funding need for fire services in order to support homeland security goals.

## APPENDIX. DEFINITIONS

**Catastrophic incident:** any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national moral and/or government functions (FEMA, 2008, p. CAT-1).

**Disaster:** an incident, either an occurrence or event, natural or manmade that requires a response to protect life and safety (U.S. Army, 2008).

**Emergency medical services:** a public or private nonprofit organizations that provides direct emergency medical services, including medical transport, within a specific geographic area on a first-due basis, but is not affiliated with a hospital and does not serve an area where EMS is adequately provided by a fire service (FEMA, 2009b, p. 28).

**Fire department or fire service:** an organization formally recognized by a government authority (state, territory, tribe or local) to provide fire suppression to a population within a fixed geographical area on a first-due basis” (FEMA, 2010c).

**Homeland security:** seamless coordination among federal, state, and local governments to prevent, protect against and respond to threats and natural disasters, a concerted national effort to prevent terrorist attacks within the United States, reduce America’s vulnerability to terrorism, and minimize the damage and recover from attacks that do occur (EOPUS, 2010b, p. 2).

**Response:** capabilities necessary to save lives, protect property and the environment, and meet the basic human needs after an incident has occurred (EOPUS, 2011a, p. 6).

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## LIST OF REFERENCES

- The 1947 fire. (2011). Retrieved February 13, 2011, from [http://www.town.kennebunkport.me/Public\\_Documents/KennebunkportME\\_Fire\\_Bulletins/Fire1947](http://www.town.kennebunkport.me/Public_Documents/KennebunkportME_Fire_Bulletins/Fire1947)
- American Fire Service. (2002). *Protecting our nation: The American Fire Service position paper on the Department of Homeland Security*. Washington, DC: Author.
- Assistance to Firefighters Grant Program, 44 C.F.R., 52 (2001).
- Assistance to Firefighters Grant Program Reauthorization Act of 2004, Section XXXVI of P.L. 108-375.
- Assistance to Firefighters Grant Program: A view from update New York, field hearing before the House Committee of Science*, 108<sup>th</sup> Cong. (2004).
- Associated Press. (2005, September). Katrina may cost as much as four years of war. Retrieved March 3, 2011, from <http://www.msnbc.msn.com/id/9281409/>
- Bardach, E. (2009). *A practical guide for policy analysis: the eightfold path to more effective problem solving*. Washington, DC: CQ Press.
- Bird, R. M. (1999). *Fiscal Federalism*. Toronto: University of Toronto.
- Blanchard, B. W. (1985). American civil defense 1945–1984: The evolution of programs and policies. *Federal Emergency Management Agency Monograph Series*, 2(2). Washington, DC: Author.
- Boyd, D. & Dadayan, L. (2009). State Tax Decline in Early 2009 Was the Sharpest on Record. Retrieved September 3, 2010 from [http://www.rockinst.org/pdf/government\\_finance/state\\_revenue\\_report/2009-07-17-SRR\\_76.pdf](http://www.rockinst.org/pdf/government_finance/state_revenue_report/2009-07-17-SRR_76.pdf)
- Bradford, D. F., Malt, R. A. & Oates, W. E. (1969). *The rising cost of local public services: Some evidence and reflections*. Retrieved February 4, 2014 from <http://econweb.umd.edu/~oates/research/The%20Rising%20Cost%20of%20Local%20Public%20Services.pdf>
- Breitenburg, M. (1987). *The ABC's of standards-related activities*. Washington, DC: National Institute of Standards and Technology.
- Brunet, A. (June 2005). *Grant funding to state and local governments and systematic assessment of vulnerability (EMW-2004-GR-0112)*. Los Angeles, CA: University of Southern California.

- California Department of Forestry and Fire Protection. (2009). *California fire siege 2007: An overview*. Retrieved February 8, 2014, from [http://www.fire.ca.gov/fire\\_protection/downloads/siege/2007/Overview\\_CompleteFinal.pdf](http://www.fire.ca.gov/fire_protection/downloads/siege/2007/Overview_CompleteFinal.pdf)
- Canada, B. (2003). *Homeland security: Standards for state and local preparedness*. Washington, DC: Congressional Research Service.
- Clark, W. E. (1976). *WINGSPREAD II statement of national significance to the Fire Program in the United States, A report of the Second Wingspread Conference on Fire Service Administration, Education and Research*. Retrieved September 3, 2011, from <http://nationalfireheritagecenter.org/1976wingspread.pdf>
- Cloud, R. (2008). *Future role of fire service in homeland security*. Master's thesis, Naval Postgraduate School, Monterey, CA.
- Comptroller General of the United States. (1977). *Civil defense: Are federal, state, and local governments prepared for nuclear attack?* (LCD-76-464). Washington, DC: Government Printing Office.
- Congressional Budget Office. (1990). *Federal infrastructure subsidies: Grants or credits?* Retrieved May 1, 2011, from <http://www.cbo.gov/ftpdocs/77xx/doc7770/90-CBO-036.pdf>
- Congressional Budget Office. (2004). *Federal funding for homeland security*. Retrieved May 1, 2011, from [http://www.cbo.gov/ftpdocs/54xx/doc5414/Homeland\\_Security.pdg](http://www.cbo.gov/ftpdocs/54xx/doc5414/Homeland_Security.pdg)
- Congressional Budget Office. (2005). *Federal funding for homeland security: An update*. Retrieved May 1, 2011, from <http://www.cbo.gov/ftpdocs/65xx/doc6566/7-20-HomelandSecurity.pdg>
- Congressional Fire Services Institute. (2002). *Protecting our nation: The immediate needs of America's Fire Service*. Retrieved September 3, 2010 from <http://www.cfsi.org>
- Congressional Record. (April 28, 2009). *Statement of Senator Lieberman on Fire Grants Reauthorization Act of 2010*. S2753
- Critical fire grants to assist local fire departments reauthorized. (2009). Retrieved March 1, 2014, from [http://www.thebaynet.com/news/util\\_files/util\\_printstory.cfm/story\\_ID/15590/storytype/textarticle](http://www.thebaynet.com/news/util_files/util_printstory.cfm/story_ID/15590/storytype/textarticle)
- Doing less with less. When will we learn? (2010, February 3). *Firehouse*. Retrieved February 6, 2010, from <http://www.firehouse.com/topics/departments/doing-less-less-when-will-we-learn>

Emergency preparedness and response act of 2003. S. 930 Retrieved December 1, 2013, from <http://www.gpo.gov/fdsys/pkg/CRPT-108srpt227/html/CRPT-108srpt227.htm>

Executive Office of the President of the United States. (2002). *The national security strategy of the United States of America*. Retrieved July 15, 2010, from <http://georgewbush-whitehouse.archives.gov/nsc/nss/2002/>

Executive Office of the President of the United States. (2003). *Securing the homeland, strengthening the nation*. Retrieved July 15, 2010, from [http://www.dhs.gov/xlibrary/assets/homeland\\_security\\_book.pdf](http://www.dhs.gov/xlibrary/assets/homeland_security_book.pdf)

Executive Office of the President of the United States. (2007). National Strategy for Homeland Security. Retrieved March 1, 2014, from [http://www.dhs.gov/xlibrary/assets/nat\\_strat\\_homelandsecurity\\_2007.pdf](http://www.dhs.gov/xlibrary/assets/nat_strat_homelandsecurity_2007.pdf)

Executive Office of the President of the United States. (2010a). Detailed information on the Federal Emergency Management Agency: Grants and Training Office, assistance to firefighters grants assessment. Retrieved January 8, 2011, from <http://www.whitehouse.gov/omb/expectmore/detail/10001071.2007.html>

Executive Office of the President of the United States. (2010b). *National security strategy*. Retrieved January 20, 2011, from [http://www.whitehouse.gov/sites/default/files/rss\\_viewer/national\\_security\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf)

Executive Office of the President of the United States. (2011a). *Presidential Policy Directive/PPD-8 National Preparedness Goal*. Retrieved May 1, 2011, from <http://www.dhs.gov/xlibrary/assets/presidential-policy-directive-8-national-preparedness.pdf>

Executive Office of the President of the United States. (2011b). State and local government. Retrieved April 11, 2011, from <http://www.whitehouse.gov/our-government/state-and-local-government>

Federal Emergency Management Agency. (1987). *America burning revisited, national workshop, Tyson's Corner, Virginia, November 30–December 2, 1987*. Washington, DC: Government Printing Office.

Federal Emergency Management Agency. (1996). *Strategies for Marketing Your Fire Department Today and Beyond*. Washington, DC: Government Printing Office.

Federal Emergency Management Agency. (1998). *Funding alternatives for fire and emergency services*. Washington, DC: Government Printing Office.

Federal Emergency Management Agency. (1999). *America at risk: Findings and recommendations on the role of the fire service in the prevention and control of risks in America*. Washington, DC: Government Printing Office.

- Federal Emergency Management Agency. (2000a). *Advocating shared responsibility for improved fire protection, beyond solutions 2000 report*. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2000b). *America at risk: Findings and recommendations on the role of the fire service in the prevention and control of risks in America, AMERICA BURNING recommissioned*. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2000c). *America burning recommissioned issues final report*. Retrieved February 23, 2011, from <http://www.fema.gov/news/newsrelease.fema?id=9991>
- Federal Emergency Management Agency. (2001). *Report on the Assistance to Firefighters Grant Program for FY 2001*. Retrieved January 18, 2010, from <http://www.firegrantssupport.com/docs/2005AFGFY2001.pdf>
- Federal Emergency Management Agency. (2002a). *A needs assessment of the US Fire Service: A cooperative study authorized by U.S. public law 106-398 (FA-240)*. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2002b). *America at Risk: America Burning Recommissioned, FA-223*. Retrieved March 1, 2014, from <http://www.usfa.fema.gov/downloads/pdf/publications/fa-223-508.pdf>
- Federal Emergency Management Agency. (2003a). *2003 program guidance for the Assistance to Firefighters Grant Program*. Retrieved January 18, 2010, from <http://firegrantsupport.com/docs/03AFGguidance.pdf>.
- Federal Emergency Management Agency. (2003b). *Report on the Assistance to Firefighters Grant Program for FY 2002*. Retrieved January 18, 2010, from <http://firegrantsupport.com/docs/2005AFGFY2002.pdf>
- Federal Emergency Management Agency. (2003c, January). Risk management planning for hazardous materials: What it means for fire service planning. Retrieved February 15, 2014, from <http://www.hsd.org/?view&did=446437>
- Federal Emergency Management Agency. (2004). *Responding to incidents of national consequence: Recommendations for American's fire and emergency services based on the events of 9/11/01, and other similar incidents (FA-282)*. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2006a). *AFG Program SPSS analysis: Program impact on fire Departments in Allegheny, Cambria, and Westmoreland Counties in Western Pennsylvania*. Washington, DC: Government Printing Office.



- Federal Emergency Management Agency. (2006b). *Assistance to Firefighters Grant Program FY 2005 report*. Retrieved January 18, 2010, from <http://firegrantsupport.com/docs/2005AFGReport.pdf>
- Federal Emergency Management Agency. (2006c). *Four Years Later – A Second Needs Assessment of the US Fire Service, A Cooperative Study Authorized by U.S. Public Law 108-767 (FA-303)*. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2006, October). *Matching assistance to firefighters grants to the reported needs of the U.S. fire service: A cooperative study authorized by US public law 108-767, Title XXXVI (FA-304)*. Retrieved February 27, 2010, from <http://www.hsdl.org/?view&did=689278>
- Federal Emergency Management Agency. (2007a). *A profile of fire in the United States 1995–2004*. 14th ed. Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2007b). *Assistance to Firefighters Grant Program, report on FY 2006 assistance to firefighters grants*. Retrieved January 18, 2010, from <http://firegrantsupport.com/docs/2006AFGReport.pdf>
- Federal Emergency Management Agency. (2007c). *FY 2007 Assistance to Firefighters Grants Program and application guidance*. Retrieved January 18, 2010, from <http://firegrantsupport.com/docs/2007AFGguidance.pdf>
- Federal Emergency Management Agency. (2008). National response framework: Catastrophic incident annex. Retrieved February 8, 2014 from [http://www.fema.gov/pdf/emergency/nrf/nrf\\_CatastrophicIncidentAnnex.pdf](http://www.fema.gov/pdf/emergency/nrf/nrf_CatastrophicIncidentAnnex.pdf)
- Federal Emergency Management Agency. (2009a). *Fire in the United States 2003-2007, Fifteenth Edition (FA-325)*. Retrieved August 10, 2011, from [www.usfa.fema.gov/downloads/pdf/statistics/fa\\_325.pdf](http://www.usfa.fema.gov/downloads/pdf/statistics/fa_325.pdf)
- Federal Emergency Management Agency. (2009b). *FY 2009 Assistance to Firefighters Grants Program and application guidance*. Retrieved January 18, 2010, from [http://firegrantsupport.com/docs/2010\\_AFGguidance.pdf](http://firegrantsupport.com/docs/2010_AFGguidance.pdf)
- Federal Emergency Management Agency. (2010a). *2009 application statistics*. Retrieved November 18, 2011, from <http://www.firegrantsupport.com/content/html/afg/AppStatistics.aspx>
- Federal Emergency Management Agency. (2010b). *A profile of fire in the United States 2003–2007*. 15th ed. Retrieved August 10, 2011, from [www.usfa.fema.gov/downloads/pdf/statistics/profile\\_fitus\\_15th.pdf](http://www.usfa.fema.gov/downloads/pdf/statistics/profile_fitus_15th.pdf)
- Federal Emergency Management Agency. (2010c). *FY 2010 Assistance to Firefighters Grants guidance and application kit AFG fire prevention and safety grants, program and application guidance*. Retrieved December 1, 2010, from [http://firegrantsupport.com/docs/2010\\_AFGguidance.pdf](http://firegrantsupport.com/docs/2010_AFGguidance.pdf)

- Federal Emergency Management Agency. (2011). *Assistance to Firefighters Grant FY2011 workshop schedule*. Retrieved September 20, 2011, from [http://www.fema.gov/firegrants/js/workshop\\_schedule\\_july.html](http://www.fema.gov/firegrants/js/workshop_schedule_july.html)
- Federal Emergency Management Agency. (2012a). *Assistance to Firefighters Grant, Guidance and application kit, fiscal year 2012*. Retrieved January 10, 2013, from <http://www.fema.gov/library/viewread.do?id=6007>
- Federal Emergency Management Agency. (2012b). *Funding alternatives for emergency medical and fire services* (FA-331). Washington, DC: Government Printing Office.
- Federal Emergency Management Agency. (2013). FY 2013 Assistance to Firefighters Grant Program Funding Opportunity Announcement. Retrieved February 14, 2014, from <http://www.fema.gov/media-library-data/1382998839906-5bf5d576127cdc4f3985b47c7e215568/FY+2013+ASSISTANCE+TO+FIREFIGHTERS+GRANT+PROGRAM+-+FOA+10-28-13.pdf>
- Federal Emergency Management Agency. (2014). Fire statistics. Retrieved March 1, 2014, from <http://www.usfa.fema.gov/statistics/>
- Fire grants reauthorization of 2009. H.R. 3781* (2009). Retrieved May 1, 2011, from <http://www.opencongress.org/bill/hr3791-111/text>
- Fire Grants Reauthorization Act of 2010. S. 3267* Retrieved May 1, 2011, from <http://www.cbo.gov/ftpdocs/115xx/doc11541/s3267.pdf>
- Firefighters investment and response enhancement act of 2000. S. 1941* Retrieved May 1, 2011, from <http://www.cbo.gov/ftpdocs/25xx/doc2572/s1941.pdf>
- Fireman's Fund Insurance Company. (2009). Supporting safer communities: A national firefighter survey. Retrieved September 30, 2010, from <http://www.nvfc.org/page/626/showitem/990/News.htm>
- Gamkhar, S. (2002). *Federal intergovernmental grants and the states: Managing devolution*. Austin, TX: Edward Elgar Publishing.
- Government Accountability Office. (1991). *Budget issues: Funding alternatives for fire-fighting activities at USDA and interior* (GAO/AFMD-91-45). Washington, DC: Government Printing Office.
- Government Accountability Office. (2002a). *Combating terrorism: Critical components of a national strategy to enhance state and local preparedness, statement of Randall A. Yim, Managing Director, National Preparedness* (GAO-02-548T). Washington, DC: Government Printing Office.

- Government Accountability Office. (2002b). *Combating terrorism: Intergovernmental cooperation in the development of a national strategy to enhance state and local preparedness*, Statement of Patricia A. Dalton, Director, Strategic Issues (GAO-02-550T). Washington, DC: Government Printing Office.
- Government Accountability Office. (2002c). *Combating terrorism: Intergovernmental partnership in a national strategy to enhance state and local preparedness*, statement of Paul L. Posner, Managing Director, Federal Budget Issues, Strategic Issues (GAO-02-547T). Washington, DC: Government Printing Office.
- Government Accountability Office. (2002d). *New department could improve coordination but transferring control of certain public health programs raises concerns* (GAO-02-954T). Washington, DC: Government Printing Office.
- Government Accountability Office. (2003). *Homeland security: Reforming federal grants to better meet outstanding needs* (GAO-03-1146T). Washington, DC: Government Printing Office.
- Government Accountability Office. (2005). *DHS' efforts to enhance first responders' all-hazards capabilities continue to evolve* (GAO-05-652). Washington, DC: Government Printing Office.
- Government Accountability Office. (2008). *State and local governments: Growing fiscal challenges will emerge during the next 10 years* (GAO-08-317). Washington, DC: Government Printing Office.
- Government Accountability Office. (2009). *FIRE grants, FEMA has met most requirements for awarding fire grants, but additional actions would improve its grant process* (GAO-10-64). Washington, DC: Government Printing Office.
- Government Accountability Office. (2013). *Grant performance: Justice and FEMA collect performance data for selected grants, but action needed to validate FEMA performance data* (GAO-13-552). Washington, DC: Government Printing Office.
- Hall, Jr. J. (2009). *The total cost of fire in the United States*. Washington, DC: National Fire Protection Association.
- Hall, Jr., J. (2010). *The total cost of fire in the United States*. Washington, DC: National Fire Protection Association.
- Hall, Jr., J. (2013). *The total cost of fire in the United States*. Retrieved February 4, 2014, from <http://www.nfpa.org/~media/Files/Research/NFPA%20reports/Economic%20impact/ostotalcost.pdf>
- Hall, Jr., J. & Campbell, R. (August 2013). Cost of fire: Economic issues of fire prevention and firefighting. Retrieved February 4, 2014, from <http://www.iafc.org/onscene/articles.cfm/article.cfm?ItemNumber=7073>

*Hearing on the Subcommittee on Emergency Preparedness and Response before the Select Committee on Homeland Security, 108<sup>th</sup> Cong. (2004).*

H. R. 3791, 111th Cong., (2009).

H.R. Rep. No. 111-333 (2009).

H.R. Rep. No. 113-91, (2009).

H.R. Rep. No. 1168, at 106 (2000).

Inman, R.P. (December 2008). *The flypaper effect*. Retrieved February 27, 2010 from <http://www.nber.org/papers/w14579>

International Association of Fire Chiefs. (2004). *A Call for Action, The Blue Ribbon Report, Preserving and Improving the Future of Volunteer Fire Services*. Retrieved February 14, 2014, from [http://www.iafc.org/files/1VCOS/VCOS\\_Blue\\_Ribbon\\_Report.pdf](http://www.iafc.org/files/1VCOS/VCOS_Blue_Ribbon_Report.pdf)

International Association of Fire Chiefs. (2005a). *Providing for the common defense*. Retrieved January 8, 2011, from <http://iafc.org/associations/4685/files/common%20defenseforweb.pdf>

International Association of Fire Chiefs. (2005b). Secretary Chertoff announces reorganization, plans for DHS. Retrieved March 1, 2014, from <http://www.iafc.org/files/080105.pdf>

International Association of Fire Chiefs. (2006). *Wingspread V: Statements of national significance to the fire service and to those served*. Retrieved February 12, 2014, from <http://nationalfireheritagecenter.org/2006Wingspread.pdf>

International Association of Fire Chiefs. (2008, December). Weathering the economic storm: Fiscal challenges in fire and emergency medical services. Retrieved January 24, 2010, from <http://www.iafc.org/Operations/ResourcesDetail.cfm?itemnumber=4740>

International Association of Fire Fighters. (2009). *Statement of Mr. Kevin O'connor, Assistant to the General President International Association of Fire Fighters before the Subcommittee on Technology and Innovation Committee on Science and Technology, U.S. House of Representatives on Reauthorization of the Fire Grant Programs*. Retrieved May 3, 2011, from <http://gop.science.house.gov/Media/hearings/ets09/july8/oconnor.pdf>

Insurance Services Organization. (2010a). *Fire suppression rating schedule (FSRS)*. Retrieved February 24, 2010, from <http://www.iso.com/Products/Fire-Suppression-Rating-Service>

- Insurance Services Organization. (2010b). *Public protection classification service ISO*. Retrieved February 24, 2010, at <http://www.iso.com/Products/Public-Protection-Classification-Service>
- Insurance Services Organization. (2014). *Fire departments are under constant pressure to expand or improve their service, and they face many obstacles in doing that job*. Retrieved March 1, 2014, from <http://www.iso.com/Research-and-Analyses/Studies-and-Whitepapers/Effective-Fire-Protection-Fire-departments-are-under-constant-pressure-to-expand-or-improve-their.html>
- Johnson Foundation. (February 1966). *Proceedings from Wingspread Conference on Fire Service Administration Education and Research: Statements of national significance to the fire problem in the United States*. Racine, WI: Johnson Foundation.
- Kettl, D. (2002). *Promoting state and local government performance for homeland security*. The Century Foundation Homeland Security Project. Retrieved January 18, 2011, from [http://www.homelandsec.org/Pub\\_category/pdf/state\\_local\\_gov\\_perform.pdf](http://www.homelandsec.org/Pub_category/pdf/state_local_gov_perform.pdf)
- Kettl, D. (2003) *The States and Homeland Security: Building the Missing Link*, The Century Foundation's Homeland Security Project Working Group on Federalism Challenges, New York, New York: Century Foundation.
- Kraft, M. & Furlong, S. (2010). *Public policy: Politics, analysis, and alternative*. Washington, DC: CQ Press.
- Kruger, L. (2009). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.
- Kruger, L. (2010, April). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.
- Kruger, L. (2011a, June). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.
- Kruger, L. (2011b, August). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.
- Kruger, L. (2012, June). *Assistance to Firefighters Program: Distribution of fire grant funding*. Retrieved January 4, 2013, from <http://www.fas.org/sqp/crs/homesec/RL32341.pdf>
- Kruger, L. (2013a, June). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.
- Kruger, L. (2013b, September). *Assistance to Firefighters Program: Distribution of fire grant funding*. Washington, DC: Congressional Research Service.

- Kyle, S. & Peluso, P. (2009). House passes grant reauthorization. Retrieved January 24, 2010, from <http://www.firehouse.com/topics/news/house-passes-reauthorization-fire-grants>
- Leyden, D. P. (2005). A general theory of intergovernmental grants. In *Adequacy, accountability, and the future of public education funding*. New York: Springer U.S. Publisher.
- Lurie, G. (2013). *Governor, FEMA Chief Update Flood Response*. Retrieved March 1, 2014 from <http://coloradocommunitymedia.com/stories/Governor-FEMA-chief-update-flood-response,42965>
- Mayer, M. (2009). *An analysis of federal, state, and local homeland security budgets*. Retrieved April 8, 2011, from <http://www.heritage.org/Research/Reports/2009/03/An-Analysis-of-Federal-State-and-Local-Homeland-Security-Budgets>
- McNeill, D. (2009). History of volunteer fire departments in America. Retrieved February 21, 2011, from [www.suite101.com/content/history-of-volunteer-fire-departments-in-America-a107361](http://www.suite101.com/content/history-of-volunteer-fire-departments-in-America-a107361)
- Metzel, J. (2003, June 3). Emergency responders: Drastically underfunded, dangerously unprepared. *Transcript of proceedings at Council on Foreign Relations*. Retrieved January 29, 2011, from <http://www.cfr.org/terrorism/emergency-responders-drastically-underfunded-dangerously-unprepared/p6090>
- Minnesota Historical Society. (2012). The Great Fire of 1918. Retrieved February 11, 2012, from [http://discovery.mnhs.org/MN150/index.php?title=The\\_Great\\_Fires\\_of\\_1918](http://discovery.mnhs.org/MN150/index.php?title=The_Great_Fires_of_1918)
- Muhlausen, D. (2009, September 23,). Do DHS fire grants reduce fire casualties? Retrieved August 5, 2013, from <http://www.heritage.org/research/reports/2009/09/do-dhs-fire-grants-reduce-fire-casualties>
- National Academy of Public Administration. (2007). *Assistance to Firefighters Grant Program: Assessing performance. A report by a Panel of the National Academy of Public Administration for the Department of Homeland Security*. Washington, DC: National Academy of Public Administration.
- National Academy of Sciences. (1999). *Evaluating federal research programs: Research the government performance and results act*. Washington, DC: National Academy Press.
- National Center for Education Statistics, (2014). *Table 202. Revenues for public elementary and secondary schools, by source of funds; Selected years, 1919–20 through 2009–2010*. Retrieved February 1, 2014 from [http://nces.ed.gov/programs/digest/d12/tables/dt12\\_202.asp](http://nces.ed.gov/programs/digest/d12/tables/dt12_202.asp)

National Commission on Fire Prevention and Control. (1973). *America burning: The report of the National Commission on Fire Prevention and Control*. Washington, DC: Government Printing Office.

National Commission on Terrorist Attacks upon the United States. (2004). *The 9/11 Commission Report*. Washington, DC: Government Printing Office.

National Defense Authorization Act for Fiscal Year 2008 (2007).

National Fire Protection Association. (2010a). Deadliest/large-loss fires. Retrieved February 24, 2010, from [http://www.nfpa.org/itemDetail.asp?categoryID=954&itemID=23352&URL=Research/Fire%20statistics/Deadliest/large-loss%20fires&cookie\\_test=1](http://www.nfpa.org/itemDetail.asp?categoryID=954&itemID=23352&URL=Research/Fire%20statistics/Deadliest/large-loss%20fires&cookie_test=1)

National Fire Protection Association. (2010b). History of the NFPA codes and standards-making system. Retrieved March 30, 2011, from <http://www.nfpa.org/~media/Files/Codes%20and%20standards/Standards%20development%20process/HistoryNFPACodesStandards.pdf>

National Fire Protection Association. (2010c). Key dates in fire history. Retrieved February 24, 2010, from <http://www.nfpa.org/research/reports-and-statistics/key-dates-in-fire-history>

National Fire Protection Association. (2010d). *The Total cost of fire in the United States*. Retrieved September 3, 2010, from <http://www.nfpa.org/assets/files/PDF/totalcost.pdf>

National Fire Protection Association. (2010e). The US fire program, 1977–2008. Retrieved February 24, 2010, from <http://www.nfpa.org/itemdetail.asp=ID953&item ID=23033>

National Fire Protection Association. (2011a). List of NFPA codes & standards. Retrieved March 30, 2011, from [http://www.nfpa.org/aboutthecodes/list\\_of\\_codes\\_and\\_standards.asp?cookie%5Ftest=1](http://www.nfpa.org/aboutthecodes/list_of_codes_and_standards.asp?cookie%5Ftest=1)

National Fire Protection Association. (2011b). *Third needs assessment of the U.S. Fire Service*. Retrieved October 8, 2013, from <http://www.nfpa.org/~media/Files/Research/NFPA%20reports/Fire%20service%20statistics/2011needsassessment.pdf>

National Fire Protection Association. (2013, October). The United States Fire Service fact sheet. Retrieved November 27, 2013, from <http://www.nfpa.org/~media/Files/Research/Fact%20sheets/FireServiceFactSheet.pdf>

National Fire Protection Association. (2014). *Largest Fire Losses in the United States*. Retrieved March 1, 2014, from <http://www.nfpa.org/research/reports-and-statistics/fires-in-the-us/large-property-loss/largest-fire-losses-in-the-united-states>

- National Registry of Emergency Medical Technicians. (2011). *Committed to EMS: Now & in the future, 2010 annual report*. Retrieved February 11, 2013, from [http://www.nremt.org/nremt/downloads/2010\\_Annual\\_Reports.pdf](http://www.nremt.org/nremt/downloads/2010_Annual_Reports.pdf)
- National Research Council. (1995). *Standards, conformity assessment, and trade into the 21<sup>st</sup> century*. Washington, DC: National Academy Press.
- National Volunteer Fire Council. (2009, July). *Testimony submitted by the National Volunteer Fire Council before the Committee on Science and Technology, Subcommittee on Technology and Innovation, U.S. House of Representative*. Retrieved May 3, 2011, from [http://democrats.science.house.gov/Media/file/Commdocs/hearings/2009/Tech/8jul/Carriger\\_Testimony.pdf](http://democrats.science.house.gov/Media/file/Commdocs/hearings/2009/Tech/8jul/Carriger_Testimony.pdf)
- Oates, W. (1999). An essay on fiscal federalism. *Journal of Economic Literature*, 27(3). Retrieved January 16, 2011, from <http://links.jstor.org/sici?sici=0022-0515%28199909%2937%3A3%3C1120%3AAEOFF%3E2.0.CO%3B2-A>
- Office of Comptroller General. (1977). *Civil defense: Are federal, state, and local governments prepared for nuclear attack?* LCD-76-464. Washington, DC: Government Printing Office.
- Office of Inspector General, U.S. Department of Homeland Security. (2003). *A review of the Assistance to Firefighters Grant Program* (OIG-ISP-01-03). Retrieved May 9, 2011, from [http://www.dhs.gov/xoig/assets/mgmttrpts/OIG\\_Review\\_Fire\\_Assist.pdf](http://www.dhs.gov/xoig/assets/mgmttrpts/OIG_Review_Fire_Assist.pdf)
- Office of Inspector General, U.S. Department of Homeland Security. (2006). *Review of DHS' progress in adopting and enforcing equipment standards for first responders* (OIG-06-30). Washington, DC: Government Printing Office. This should be cited in text under Office of Inspector general (OIG, 2006)
- Oklahoma Department of Civil Emergency Management. (1995). *After action report Alfred P. Murrah Federal Building Bombing 19 April 1995 in Oklahoma City, Oklahoma*. Retrieved February 10, 2011, from <http://www.ok.gov/OEM/documents/Bombing%20After%20Action%20Report.pdf>
- Peirce, N. (2004). Homeland security: Can we spend the billions better? Retrieved January 16, 2011, from <http://www.postwritersgroup.comarchives/peir0401.htm>
- Pfeifer, J. (2013). *Fire as a weapon in terrorist attacks*. Retrieved February 3, 2014, from <http://www.ctc.usma.edu/posts/fire-as-a-weapon-terrorist-attacks>
- President's Conference on Fire Prevention. (1947). *Final report of the Continuing Committee of the President's Conference on Fire Prevention*. Retrieved March 1, 2014, from <http://www.usfa.fema.gov/downloads/pdf/47report/finalreport.pdf>



- Reese, S. (2009). *Department of Homeland Security assistance to states and localities: A summary and issues for 111th Congress*. Washington, DC: Congressional Research Service.
- Rudman, W. (2003). *Emergency responders: Drastically underfunded, dangerously unprepared*. Washington, DC: Council on Foreign Relations Press. Retrieved from [www.cfr.org/terrorism/emergency-responders/p6085](http://www.cfr.org/terrorism/emergency-responders/p6085).
- Sensening, D., & Strambaugh, H. (April 2008). *Special report: Fire department preparedness for extreme weather emergencies and disasters* (USFA-TR-162). Washington, DC: Government Printing Office.
- Smith, D. (1978). *Dennis Smith's History of Firefighting in America: 300 years of Courage*. New York, NY: The Dial Press.
- Stafford Disaster Relief and Emergency Assistance Act, Pub.L.106-390, §301, 2000, Pub.L.106-390, & 301.
- Swersey, A., Ignall, E., Corman, H., Armstrong, P., & Weindling, J. (1975). *Fire protection and local government: An evaluation of policy-related research*. Santa Monica, CA: RAND Corporation.
- Taxpayers for Common Sense. (2008, February). Ending the earmark ATM. Retrieved February 13, 2011, from [http://media.washingtonpost.com/wp-srv/politics/documents/taxpayers\\_for\\_common\\_sense\\_021408.htm](http://media.washingtonpost.com/wp-srv/politics/documents/taxpayers_for_common_sense_021408.htm)
- U.S. Army Combined Arms Center. (2008). The language of disasters and incidents. Retrieved April 2, 2011, from <http://usacac.army.mil/cac2calldocs/06-08/ch-1.asp>
- U.S. Department of Agriculture. (2010). Rural fire department resources for local officials (2000). Retrieved February 7, 2010, from [http://www.nal.usda.gov/ric/ricpubs/fire\\_department\\_resources.htm](http://www.nal.usda.gov/ric/ricpubs/fire_department_resources.htm)
- U.S. Department of Agriculture, Executive Potential Program Team 6. (January 2003). *Survey, assessment, and recommendations for the Assistance to Firefighters Grant Program Final Report*. Washington, DC: Author.
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center. (2013). *Billion-dollar weather/climate disasters*. Retrieved February 11, 2013, from <http://www.ncdc.noaa.gov/billions/events>
- U.S. Department of Homeland Security. (2006). *Civil defense and homeland security: A short history of national preparedness efforts*. Washington, DC: Government Printing Office.
- U.S. Department of Homeland Security. (2011). *National preparedness goal*. Retrieved February 12, 2014, from <http://www.fema.gov/pdf/prepared/npg.pdf>

- U.S. Department of Housing and Urban Development. (2010). State administered CDBG. Retrieved February 7, 2010, from <http://www.hud.gov/offices/cpd/communitydevelopment/programs/stateadmin/>
- U.S. Department of the Interior. (2011). *FY2010 rural fire assistance program guidance*. Retrieved February 13, 2011, from [http://www.nifc.gov/rfa/2010\\_info/FY2010\\_DOI\\_FRA\\_memo.pdf](http://www.nifc.gov/rfa/2010_info/FY2010_DOI_FRA_memo.pdf)
- Unfunded Mandates Reform Act of 1995, P.L. No. 104-4, 109, Stat 48 (1995).
- Vining, A. & Weimer, D. (2011). *Foundations of public administration: Policy analysis*. Retrieved October 16, 2013, from <http://www.asparent.org/public/ASPADocs/PAR/FPA/FPA-Policy-Article.pdf>
- Walter, A. (2000). *Uncle Sam's checkbook*. Retrieved February 13, 2011, from [http://www.firechief.com/mag/firefighting\\_uncle\\_sams\\_checkbook/](http://www.firechief.com/mag/firefighting_uncle_sams_checkbook/)
- Waters, M. (2010). *How economy is challenging fire protection services*. Retrieved February 15, 2014, from <http://www.isomitigation.com/docs/fire-peril.pdf>
- Weeks, D. W. (S2007). *Strategic changes for the fire service in post 9/11 era*. Master's thesis, Naval Postgraduate School, Monterey, CA.
- Winchester, S. (2005). *A crack in the edge of the world: America and the great California earthquake of 1906*. New York, NY: Harper-Collins Publishers.
- Yim, R. A. (2002). *Combating terrorism: Critical components of a national strategy to enhance state and local preparedness*, GAO-02-548T. U.S. General Accounting Office. Washington, DC: Government Printing Office.

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